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Red Snapper Quotas for 2015-2017+

Framework Action to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico including Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

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COVER SHEET

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Framework Action to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico including Environmental Assessment (EA), Regulatory Impact Review (RIR), and Regulatory Flexibility Act Analysis (RFAA)

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	allowable biological catch
ACL	annual catch limit
ALS	accumulated landings system
AM	accountability measure
Council	Gulf of Mexico Fishery Management Council
EEZ	exclusive economic zone
EFH	essential fish habitat
E.O.	Executive Order
F_{level}	instantaneous fishing mortality corresponding to a given level
FMP	fishery management plan
FTE	Full-time Equivalent
GMFMC	Gulf of Mexico Fishery Management Council
Gulf	Gulf of Mexico
gw	gutted weight
IFQ	individual fishing quota
LAPP	limited access privilege program
lq	local quotient
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSY	maximum sustainable yield
NAICS	North American Industry Classification System
NMFS	NOAA's National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
P*	acceptable probability of overfishing
RFA	Regulatory Flexibility Act
RFAA	Regulatory Flexibility Act analysis
RIR	regulatory impact review
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SSC	Scientific Statistical Committee
SPR	spawning potential ratio
SRHS	Southeast Region Headboat Survey
TAC	total allowable catch
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

The 2006 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). The National Standard 1 (NS1) guidelines allowed the continued use of existing terminology provided that the terminology and approaches used are consistent with those set forth in the NS1 guidelines. For red snapper, the National Marine Fisheries Service (NMFS) determined the existing quotas are functionally equivalent to sector ACLs, and the sum of the quotas is functionally equivalent to the stock ACL for red snapper. The Council is in the process of officially adopting ACLs for red snapper in Amendment 40 (GMFMC 2014). That amendment is still undergoing NMFS review.

From a low of 5 million pounds (mp) whole weight (ww) in 2009, the combined recreational and commercial quotas for red snapper increased annually to an all-time high of 11 mp in 2013 (Table 1.1.1). Since 2013, the combined quota has been fixed at 11 mp. Despite quota increases, the recreational fishing seasons in federal waters have decreased due to increasing average size of fish, increasing catch rates, and increasing state water seasons. In addition, due to a history of the recreational sector exceeding its quota in most years, the Council implemented an annual catch target (ACT) set 20% below the recreational quota, which is used to set the recreational season length. The commercial sector has been managed by an individual fishing quota (IFQ) program since 2007, and landings have not exceeded the commercial quota in that time. For more background on red snapper management, see http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/red_snapper/index.html).

A benchmark assessment for red snapper was conducted in 2012 and 2013 by the Southeast Data, Assessment, and Review process (SEDAR 31 2013). The Scientific and Statistical Committee (SSC) reviewed the assessment in May 2013, and determined the acceptable biological catch (ABC) could be increased to 13.5 million pounds (mp) whole weight (ww) for 2013, the highest level since 1996. However, this ABC was based on recent years of strong recruitment (i.e., above average spawning success from 2004 to 2006) that is supporting high catch rates on fish that are now age 11 to 13. The ABC would need to be reduced in subsequent years as the fish from these strong recruitment events are fished out if recruitment to the fishery declines. Rather than implement a series of declining quotas, the Council chose to set a fixed quota of 11 mp for 2013 through 2015, with the stock status to be re-evaluated through an update assessment in 2014.

The 2014 update assessment was presented in PowerPoint format at the January 2015 meeting of the SSC[1]. In addition to the updated data through the 2013 terminal year, changes in the stock

[1] The written report for the 2014 red snapper update assessment is in preparation. A version of the PowerPoint presentation describing the assessment was presented to the Council at its January 2015 meeting, and is available at the January 2015 briefing materials on the Council website (http://www.gulfcouncil.org) or by going directly to: http://www.gulfcouncil.org/council_meetings/Briefing%20Materials/BB-01-2015/B%20-%2014%20Red%20Snapper%202014%20Update%20Presentation.pdf

assessment results are primarily due to updated Marine Resource Information Program (MRIP) protocols causing an increase in landings estimates, while a shift in selectivity to larger, older fish by recreational fisherman led to a new selectivity timeblock in the stock assessment (i.e., for the years 2011-2013). The SSC reviewed the assessment and determined the ABC could be increased to 13 mp in 2015 with further increases over the next two years.

However, the recreational red snapper landings in the original 2014 update assessment were only available through 2013, so the ABC projections for 2015 and beyond were made assuming that the 2014 landings would equal those in 2013. The 2014 recreational landings were actually less than in 2013. It will be several months before the final landings estimates for 2014 are available, but the Southeast Fisheries Science Center (SEFSC) staff made new projections using the provisional 2014 landings. Due to the landings being lower in 2014 than previously assumed, the SEFSC projections concluded that the 2015 ABC could be set higher than the level set by the SSC. However, there would then need to be subsequent annual reductions in order to adhere to the 2032 rebuilding schedule. The Council asked the SSC to re-evaluate its ABC recommendations in light of the new information on 2014 landings. The SSC convened via internet webinar on February 19. The quota alternatives in this framework action are based on the ABC recommendations made by the SSC at that meeting.

Table 1.1.1. Red snapper landings and overage/underage by sector, 1986-2014. 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 (TAC) for the years 1991-2009 and the functional equivalent of annual catch limit (ACL) for 2010-2014.

	Recreational			Commercial			Total		
Year	**Alloc. Quota**	**Actual landings**	**Difference**	**Quota**	**Actual landings**	**Difference**	**Quota**	**Actual landings**	**Difference**
1986	na	2.770	na	na	3.700	na	na	6.470	na
1987	na	1.814	na	na	3.069	na	na	4.883	na
1988	na	2.568	na	na	3.960	na	na	6.528	na
1989	na	2.656	na	na	3.098	na	na	5.754	na
1990	na	1.614	na	3.1	2.650	-0.450	na	4.264	na
1991	1.96	2.917	+0.957	2.04	2.213	+0.173	4.0	5.130	+1.130
1992	1.96	4.618	+2.658	2.04	3.106	+1.066	4.0	7.724	+3.724
1993	2.94	7.161	+4.221	3.06	3.374	+0.314	6.0	10.535	+4.535
1994	2.94	6.076	+3.136	3.06	3.222	+0.162	6.0	9.298	+3.298
1995	2.94	5.464	+2.524	3.06	2.934	-0.126	6.0	8.398	+2.398
1996	4.47	5.339	+0.869	4.65	4.313	-0.337	9.12	9.652	+0.532
1997	4.47	6.804	+2.334	4.65	4.810	+0.160	9.12	11.614	+2.494
1998	4.47	4.854	+0.384	4.65	4.680	+0.030	9.12	9.534	+0.414
1999	4.47	4.972	+0.502	4.65	4.876	+0.226	9.12	9.848	+0.728
2000	4.47	4.750	+0.280	4.65	4.837	+0.187	9.12	9.587	+0.467
2001	4.47	5.252	+0.782	4.65	4.625	-0.025	9.12	9.877	+0.757
2002	4.47	6.535	+2.065	4.65	4.779	+0.129	9.12	11.314	+2.194
2003	4.47	6.105	+1.635	4.65	4.409	-0.241	9.12	10.514	+1.394
2004	4.47	6.460	+1.990	4.65	4.651	+0.001	9.12	11.111	+1.991
2005	4.47	4.676	+0.206	4.65	4.096	-0.554	9.12	8.772	-0.348
2006	4.47	4.131	-0.339	4.65	4.649	-0.001	9.12	8.780	-0.340
2007	3.185	5.809	+2.624	3.315	3.153	-0.162	6.5	8.962	+2.462
2008	2.45	4.056	+1.606	2.55	2.461	-0.089	5.0	6.517	+1.517
2009	2.45	5.597	+3.147	2.55	2.461	-0.089	5.0	8.058	+3.058
2010	3.403	2.651	-0.752	3.542	3.362	-0.180	6.945	6.013	-0.932
2011	3.866	6.734	+2.868	3.664	3.562	-0.102	7.53	10.296	+2.766
2012	3.959	7.524	+3.565	4.121	4.000	-0.121	8.08	11.524	+3.444
2013	5.390	9.639	+4.249	5.610	5.399	-0.211	11.00	15.038	+4.038
2014	5.390 4.312 ACT	3.896	-1.494	5.610	5.568	-0.042	11.00	9.464	-1.536

Sources: For recreational landings, Southeast Fisheries Science Center (SEFSC) including landings from the Calibrated Marine Recreational Information Program (MRIP), Texas Parks and Wildlife Department (TPWD), and the Southeast Headboat Survey (HBS) (December 2014). For commercial landings, Southeast Data Assessment and Review (SEDAR) 31 Data Workshop Report (1990-2011), commercial quotas/catch allowances report from NMFS/Southeast Regional Office (SERO) IFQ landings website (2012 commercial): http://sero.nmfs.noaa.gov/sf/ifq/CommercialQuotasCatchAllowanceTable.pdf. Commercial quotas/landings in gutted weight were multiplied by 1.11 to convert to ww. Values highlighted in red are those where landings exceeded quotas. 2014 landings are preliminary.

1.2 Purpose and Need

The purpose of this action is to revise the quotas for commercial and recreational harvest of red snapper in the Gulf of Mexico (Gulf) consistent with the red snapper rebuilding plan and allow each sector to harvest the additional quota. The underlying need for this action is driven by the Magnuson-Stevens Act, which requires NMFS and the regional fishery management councils to prevent overfishing while achieving, on a continuing basis, the optimum yield from federally managed fish stocks, to take into account the importance of fishery resources to fishing communities and provide for sustained participation of such communities, and to rebuild stocks that have been determined to be overfished.

1.3 History of Management

This history of management only covers events pertinent to red snapper fishing in the Gulf. A summary of red snapper management through 2006 can be found in Amendment 27/14 (GMFMC 2007) and in Hood et al. (2007), and is incorporated herein by reference. This section focuses on management actions since 2007. Information on management of the reef fish fishery as a whole can be obtained by contacting the Council.

Amendment 26 (with SEIS, RIR, and IRFA) (GMFMC 2006), effective on January 1, 2007, established an individual fishing quota program for the commercial red snapper fishery. Quota shares are freely transferable to other reef fish permit holders during the first five years following implementation and to anyone thereafter.

An interim rule, published on April 2, 2007, reduced the red snapper total allowable catch to 6.5 mp, resulting in a commercial quota of 3.315 mp and a recreational quota of 3.185 mp; reduced the red snapper recreational bag limit from four fish to two fish per person per day; prohibited the captain and crew of for-hire vessels from retaining the recreational bag limit; reduced the commercial minimum size limit from 15-inches to 13-inches total length; and established a target red snapper bycatch mortality reduction goal for the shrimp fishery that equates to 50% of the bycatch mortality that occurred during 2001-2003 and a level of shrimp effort equal to that observed in the fishery in 2005.

Joint Reef Fish FMP Amendment 27/Shrimp FMP Amendment 14, (with EIS, RIR, and IRFA) (GMFMC 2007) was implemented February 28, 2008, except for reef fish bycatch reduction measures that became effective on June 1, 2008. This amendment addressed overfishing and stock rebuilding for red snapper. The amendment reduced total allowable catch to 5.0 mp (2.55 mp and 2.45 mp commercial recreational quotas respectively). For the recreational sector, the rule implemented a June 1 through September 30 fishing season in conjunction with a 2.45 mp recreational quota, 16-inch minimum size limit, two fish bag limit, and zero bag limit for captain and crew of for-hire vessels. The implementing regulations for this amendment created the June 1 through September 30 season by establishing fixed closed seasons of January 1 through May 31 and October 1 through December 31. The amendment also required the use of non-stainless steel circle hooks when using natural baits to fish for Gulf reef fish effective June 1, 2008, and required the use of venting tools and dehooking devices when

participating in the commercial or recreational reef fish fisheries effective June 1, 2008. In addition, the amendment established a 74% reduction in shrimp effort compared to average effort levels of 2001-2003, and possible closed areas should this target not be met. This action replaced the dependence on bycatch reduction devices by the shrimp fishery to reduce red snapper bycatch.

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

Amendment 30B (with EIS, RIR, and IRFA) (GMFMC 2008b) was implemented May 2009. While this amendment was primarily directed toward management of gag and red grouper, it included a management action which required that all vessels with federal commercial or charter reef fish permits must comply with the more restrictive of state or federal reef fish regulations when fishing in state waters

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

In April 2010, the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. Because of the resulting oil spill, approximately one-third of the Gulf was closed to fishing for much of the summer months. The direct loss of fishing opportunities due to the closure, plus the reduction in tourism throughout the coastal Gulf, resulted in a much lower catch than had been projected. After the recreational season closed on July 24, NMFS estimated that 2.3 mp of the 3.4 mp recreational quota remained unharvested (NMFS 2010). However, due to the fixed October 1 to December 31 closed season, NMFS could not reopen the recreational season without an emergency rule to suspend the closure. Consequently, the Council requested an emergency rule to provide the Regional Administrator with the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) from October 1 through November 21 (24 fishing days).

In January 2011, the Council submitted a regulatory amendment (GMFMC 2011a) to NMFS to increase the red snapper total allowable catch to 7.185 mp, with a 3.521 mp recreational quota and a 3.664 mp commercial quota. The final rule implemented the increase and established a 48-day recreational red snapper season that was June 1 through July 18.

On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota by 345,000 pounds for the 2011 fishing year and provided the agency with the authority to reopen the recreational red snapper season later in the year, if the recreational quota had not been filled by the July 19 closing date. However, in August of that year, based on headboat data plus charterboat and private recreational landings through June, NMFS calculated that 80% of the recreational quota had been caught. With the addition of July landings data plus Texas survey data, NMFS estimated that 4.4 to 4.8 mp were caught, well above the 3.865 mp quota. Thus, no unused quota was available to reopen the recreational fishing season.

A March 2012 regulatory amendment (GMFMC 2012) set the 2012 quotas for commercial and recreational red snapper harvest at 4.121 mp and 3.959 mp respectively based on a recent population assessment which showed that overfishing has ended. The regulatory amendment also eliminated the fixed recreational red snapper closed season of October 1 - December 31. By eliminating the closure date, NMFS can re-open the recreational harvest for red snapper if any remaining quota is available, without the delay of additional rulemaking. On May 30, 2012, NMFS published a final rule to increase the commercial and recreational quotas and establish the 2012 recreational red snapper fishing as June 1 through July 11. However, the north-central Gulf experienced extended severe weather during the first 26 days of the 2012 recreational red snapper fishing season, including Tropical Storm Debby. Due to the severe tropical weather, the season was extended by six days and closed on July 17.

On March 25, 2013, an emergency rule [78 FR 17882] was published in the Federal Register giving NMFS the authority to set separate closure dates for the recreational red snapper season in federal waters off individual Gulf of Mexico states. The closure dates would depend on whether state regulations were consistent with federal regulations for the recreational red snapper season length or bag limit.

A March 2013 framework action[2] (GMFMC 2013a) modified the 2013 commercial and recreational red snapper quotas to 4.315 mp and 4.145 mp respectively. Based on the emergency rule to allow separate closure dates, NMFS announced that the recreational red snapper season in federal water would open on June 1. Off Mississippi and Alabama, which had consistent state regulations, the season would be 34 days and close on July 5. The other Gulf States had inconsistent state regulations, and the seasons were announced as follows. Off Texas, the season would be 17 days and close on June 18. Off Louisiana, the season would be 24 days and close on June 25. Off Florida, the season would be 26 days and close on June 27.

[2] Prior to 2013, regulatory actions made under the Reef Fish framework procedure for setting total allowable catch, or the generic framework procedure in the Generic Annual Catch Limits/Accountability Measures Amendment, were referred to as either framework actions or regulatory amendments. Beginning in 2013, such actions were referred to only as framework actions.

Texas and Louisiana filed a legal challenge to the separate closure dates, and on May 31, 2013, the U.S. District Court in Brownsville, Texas, set aside the emergency rule. As a result of this Court decision, the federal recreational red snapper season was changed to make it the same in federal waters off all five Gulf States. Considering the catches expected later in the year during the extended state-water seasons off Texas, Louisiana, and Florida, NMFS established a Gulf-wide federal recreational red snapper season at 28 days long, opening on June 1 and closing to recreational red snapper harvest at 12:01 a.m., June 29, 2013.

A July 2013 framework action (GMFMC 2013b) increased the 2013 recreational quota from 4.145 mp to 5.39 mp and the commercial quota from 4.315 mp to 5.61 mp. The increase in commercial quota was distributed to individual fishing quota shareholders on or shortly after October 1. The increase in the recreational quota was implemented by re-opening federal waters to red snapper recreational fishing for 14 days beginning on October 1, 2013, at 12:01 a.m. and closing on October 15, 2013, at 12:01 a.m.

On March 26, 2014, in response to a legal challenge from commercial fishermen, the U.S. District Court for the District of Columbia ruled that NMFS failed to require adequate accountability measures for the recreational sector, failed to prohibit the retention of fish after the recreational quota had been harvested, and failed to use the best scientific information available when determining whether there should be a 2013 fall fishing season. In response to the Court's decision and to reduce the probability of the recreational sector exceeding its quota, the Council requested, through an emergency rule, that NMFS implement an annual catch target (ACT) is 20% less than the 2014 recreational quota and would be used to set the reason length. The emergency rule, published on May 15, 2014 [79 FR 27768], resulted in a recreational ACT of 4.312 million pounds whole weight and, after taking into consideration inconsistent state regulations, a 9-day federal recreational red snapper season, opening at 12:01 a.m., June 1, and closing at 12:01 a.m., on June 10.

An October 2014 framework action (GMFMC 2014b) proposes to establish a recreational red snapper ACT that is 20% less than the recreational quota. The framework action also proposes to establish a recreational quota overage adjustment where, while red snapper is overfished, if the recreational red snapper quota is exceeded, the overage would be deducted from the recreational red snapper quota in the following season unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. The ACT would also be adjusted to maintain the established percent buffer. A proposed rule to implement this framework action was published on November 21, 2014 [79 FR 69418], and is currently under review by NMFS.

Proposed **Amendment 40** was submitted to NMFS in December 2014. This amendment proposes to divide the recreational red snapper quota into two components, with the federal for-hire component allocated 42.3% of the quota and the private angling component allocated 57.7% of the quotas. This division would sunset three calendar years after implementation. Season closures would be determined separately for each component based on the component's annual catch target (ACT). A proposed rule to implement this amendment was published on January 23, 2015 [80 FR 3541], and is currently under review by NMFS.

CHAPTER 2. MANAGEMENT ALTERNATIVES

Action 1 - Establish Red Snapper Quotas from 2015 through 2017+

Quotas are functional equivalents of annual catch limits (ACL). In the alternatives below, the acceptable biological catch (ABC), quotas and annual catch targets (ACT)[3] are in millions of pounds (mp) whole weight (ww). ABC is set by the Scientific and Statistical Committee (SSC) and is included for reference purposes.

Alternative 1: No action. Maintain the total, commercial, and recreational red snapper quotas as defined in the July 2013 Framework Action.

Total Quota	Commercial Quota	Recreational Quota	Recreational ACT
11.00 mp	5.610 mp	5.390 mp	4.312 mp

Preferred Alternative 2: Set the annual total quota for each year at the ABC set for that year. The 2017 quota will remain in effect until changed by the Council.

Year	ABC	Total Quota	Commercial Quota	Recreational Quota	Recreational ACT
2015	14.30 mp	14.30 mp	7.293 mp	7.007 mp	5.605 mp
2016	13.96 mp	13.96 mp	7.120 mp	6.840 mp	5.473 mp
2017+	13.74 mp	13.74 mp	7.007 mp	6.733 mp	5.386 mp

Alternative 3: Set the annual total quota for each year at a fixed catch level equal to the lowest ABC specified for the 2015-2017 period. This quota will remain in effect until changed by the Council.

Year	ABC	Total Quota	Commercial Quota	Recreational Quota	Recreational ACT
2015+	13.74 mp	13.74 mp	7.007 mp	6.733 mp	5.386 mp

[3] ACTs indicated in the alternatives and discussions concerning ACTs are contingent on the implementation of the framework action setting Recreational Accountability Measures for red snapper.

Discussion:

Based on an October 2014 Framework Action that is currently under review by NMFS, if the recreational quota is exceeded, an overage adjustment may be applied to the recreational quota and ACT in the following year.

Amendment 40, currently under review by NMFS, proposes to divide the recreational quota into a charter/headboat component (with 42.3% of the recreational quota) and a private vessel component (with 57.7% of the recreational quota). For the 2015 fishing year, 254,125 lbs from the charter/headboat component allocation will be assigned to the second year of a two-year headboat collaborative exempted fishing permit program. The remainder of the charter/headboat component allocation, and all of the private vessel allocation, will have an annual catch target (ACT) be set at 80% of the allocation. Season lengths will be set based on the number of days projected to reach each component ACT.

If Amendment 40 is not approved, the recreational quota will not be divided. The 254,125 lbs in 2015 for the second year of a two-year headboat collaborative exempted fishing permit program will be assigned from the combined recreational quota, and for the remainder of the recreational quota, an annual catch target (ACT) will be set at 80% of the allocation. Season lengths will be set based on the number of days projected for the non-headboat collaborative portion of the recreational quota to reach its ACT.

Setting specific allocation fractions for the charter/headboat components may have some impact on the OFL and ABC due to their unique sensitivity-at-age. However, this impact is not expected to be large, particularly in comparison to other sources of uncertainty in the model.

Alternative 1 leaves the total quota at 11.0 mp, allocated into a 5.61 mp commercial quota and a 5.39 mp recreational quota. In addition, beginning in 2014, an ACT buffer of 20% is applied to the recreational quota to guard against overharvest. This quota is based on the SEDAR 31 benchmark stock assessment (SEDAR 31 2013). After reviewing the assessment, the SSC initially set a series of declining ABCs: 13.5 mp in 2013, 11.9 mp in 2014, and 10.6 mp in 2015 (GMFMC 2013c). The Council wished to avoid setting a series of declining quotas, and subsequent analysis by the SEFSC indicated that a constant catch of 11.0 mp each year from 2013 through 2015 would provide the same rebuilding results as the declining ABCs (NMFS 2013). Based on projections from the 2014 red snapper update assessment, higher catch levels could be allowed that would still be consistent with rebuilding the stock to a biomass level corresponding to a spawning potential ratio (SPR) of 26% SPR ($B_{SPR\ 26\%}$) by 2032. Continuation of this quota would result in a faster rebuilding of the stock and a lower likelihood of overfishing occurring (i.e., exceeding the overfishing limit, or OFL), but at the expense of foregoing current allowable harvest.

Preferred Alternative 2 sets an annual quota equal to the annual ABC for the years 2015 through 2017. The quotas would remain at the 2017 levels in subsequent years unless new projections are made. The ABC and associated quotas would decline gradually over the three year period. The reason for the increase of the 2015 quota followed by subsequent declines is that strong recruitment year-classes in 2004, 2005, and 2006 (now ages 11 to 13 in the terminal

year, i.e. 2013, of the 2014 update assessment) are supporting unusually high catch levels (Saari 2011, SEDAR 31 2013). Over the course of the ABC projections, these year-classes are fished down, while future recruitment events are assumed to be lower (i.e., near time series average levels). The result is that annual ABCs will decline over the short term unless future assessment updates indicate continued strong recruitment. **Preferred Alternative 2** allows the highest level of harvest from 2015 to 2017, but requires quota reductions each year after 2015.

Alternative 3 sets a constant catch quota at the smallest ABC for the years 2015 through 2017. Setting the quota at a constant catch level allows for stability in management measures. In addition, setting the quota below the ABC during two of the years will result in a faster rebuilding of the stock and a lower likelihood of overfishing in any given year (i.e., exceeding the OFL). However, the potential decrease in rebuilding time results in foregone yield in the short-term. Setting the quota at a level higher than the smallest ABC over the 2015-2017 timeframe would result in the ABC being exceeded for at least one of those years, which is not allowed under the Magnuson-Stevens Act.

The 2017 quota would remain in place in subsequent years unless new ABCs are recommended by the SSC. OFL and ABC were undefined by the SSC for years beyond 2017. However, projected OFL and ABC yields continue to decline at least through 2020 (Table 2.1). This infers that maintaining the quota at the 2017 level could lead to overfishing (i.e., exceeding the OFL) as early as 2019. However, the SSC noted several sources of uncertainties in the projections which resulted in there being little confidence in projections beyond three years. Among these uncertainties:

- Final landings estimates for 2014 will not be available until June or later. However, based on previous years, changes between provisional and final landings estimates have been small, typically 5% or less.

- SSC members raised questions about the average weight of recreational catches from Texas. The average weight for 2014 seemed low at 4.4 pounds (23,634 lbs/5,329 fish) compared to 5.5 pounds for the May 16-December 31, 2013 proxy fish (228,344 lbs/41,841 fish). After further investigation, NMFS staff concluded that all available Texas landings had been included, but there remained uncertainty about the accuracy of the average weights.

- Discards in 2014 were assumed to continue at 2013 levels. Projections for 2015 and beyond may require further revision until discard estimates are finalized.

In addition, year-to-year fluctuations in recruitment levels can change the average recruitment level used in the projections. Due to these uncertainties, long-range OFLs and ABCs could be either higher or lower than the current projections. However, the current scientific information suggests a continuing downward trend. For these reasons, The Council and SSC should reevaluate ABC for 2018 and beyond before reaching that year.

Table 2.1. Projected OFL and ABC yields for 2015-2020

Year	Projected OFL	Projected ABC
2015	16.13 mp	14.30 mp
2016	15.32 mp	13.96 mp
2017	14.80 mp	13.74 mp
2018	14.25 mp	13.38 mp
2019	13.60 mp	12.84 mp
2020	13.16 mp	12.48 mp

Source: Southeast Fisheries Science Center

CHAPTER 3. AFFECTED ENVIRONMENT

The affected environment as it pertains to the red snapper component of the Gulf of Mexico (Gulf) reef fish fishery has been described in detail in the following documents: Generic Essential Fish Habitat Amendment (GMFMC 2004b), February 2010 Regulatory Amendment (GMFMC 2010), January 2011 Regulatory Amendment (GMFMC 2011a), Generic Annual Catch Limit/Accountability Measures Amendment (GMFMC 2011b), and March 2013 Framework Action (GMFMC 2013a). This information is incorporated by reference and is summarized below. For information on impacts of the Deepwater Horizon MC252 oil spill on the affected environment, see information at http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm.

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

There are several marine reserves, habitat areas of particular concern, and restricted fishing gear areas in the Gulf. These are detailed in GMFMC (2013a). The Bureau of Ocean Energy Management lists historic shipwrecks that occur in the Gulf. Most of these sites are in state or deep federal (>1,000 feet) waters. There is one site located in federal waters in less than 100 feet that could be affected by reef fish fishing. This is the *U.S.S. Hatteras* located approximately 20 miles off Galveston, Texas.

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions; coral reefs, rock outcroppings, and gravel bottoms; oil rigs; and other artificial structures. Eggs and larvae are pelagic and juveniles are common on mud bottoms in the northern Gulf, particularly off Texas through Alabama (GMFMC 2004b).

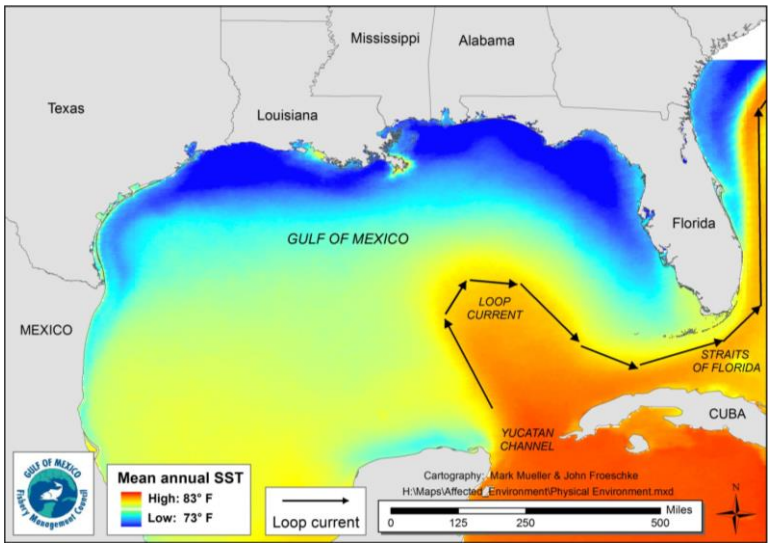

Figure 3.2.1. Physical environment of the Gulf including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (http://accession.nodc.noaa.gov/0072888)

3.2 Description of the Biological/Ecological Environment

Red Snapper Life History and Biology

Red snapper demonstrate the typical reef fish life history pattern (GMFMC 2004b). Eggs and larvae are pelagic while juveniles are demersal. Spawning occurs over firm sand bottom with little relief during the summer and fall. Adult females mature as early as 2 years and most are mature by 4 years (Schirripa and Legault 1999). Red snapper have been aged up to 57 years (Wilson and Nieland 2001). Until recently, most caught by directed harvest are 2 to 4 years old, 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 Southeast Data, Assessment, and Review (SEDAR) 31 (2013) and the Generic Essential Fish Habitat Amendment (GMFMC 2004b).

Status of the Red Snapper Stock

A red snapper update assessment was conducted by the Southeast Fishery Science Center (SEFSC) in 2014 and presented to the SSC in January 2015 SSC[4]. This update assessment was based on the SEDAR 31 benchmark in 2012 and 2013 (SEDAR 31 2013). The model and methods used in the update assessment were the same as SEDAR 31 except as follows.

[4] The written report for the 2014 red snapper update assessment is in preparation. A version of the PowerPoint presentation describing the assessment was presented to the Council at its January 2015 meeting, and is available at the January 2015 briefing materials on the Council website (http://www.gulfcouncil.org) or by going directly to: http://www.gulfcouncil.org/council_meetings/Briefing%20Materials/BB-01-2015/B%20-%2014%20Red%20Snapper%202014%20Update%20Presentation.pdf

1. Because recreational fishermen appear to be selecting for larger and older fish in recent years, a new selectivity timeblock (2011-2013) was added in the model for all recreational fleets to accommodate recent changes in fishing patterns.

2. The Marine Recreational Information Program (MRIP) implemented new data collection methods beginning in March 2013. Due in part to the addition of dockside interviews in late afternoon and evening, which was beyond the time frame previously used, landings data collected under the new methodology appear to be higher than comparable landings in earlier years. An MRIP calibration workshop convened by NMFS in the summer of 2014 developed methods to rescale MRIP estimates from 2004-2012 to account for possible undersampling outside "peak hours". The "rescaled" MRIP (2004-2013) landings were then used in turn to rescale years prior to 2004 as in SEDAR 31. The east and west portions of the stock were modeled separately. The revised recreational landings are generally 10% to 20% higher than in SEDAR 31, and the revised discards show proportionately higher rates than in SEDAR 31.

The results of the 2014 update assessment indicate that overfishing is not occurring and the stock is continuing to rebuild, but it remains overfished. Based on the assessment, the SSC recommended overfishing limits (OFL) and acceptable biological catch (ABC) for the years 2015-2017. The OFL is the resulting yield when the fishing mortality level is set to the rate that maximizes long-term yield (i.e., fishing at F_{MSY}, which results in attainment of MSY). The ABC was derived by determining a harvest rate ($F_{REBUILD\text{-}26\%\ SPR}$) that would rebuild the stock toa spawning potential ratio (SPR) of 26% of the unfished spawning potential ($B_{26\%SPR}$; a proxy for B_{MSY}) by 2032. To account for uncertainty in the true value of $F_{REBUILD\text{-}26\%\ SPR}$, a probability density function that reflects scientific uncertainty was developed. Based on Tier 1 of the Council's ABC control rule (GMFMC 2011a), a P* (acceptable probability of overfishing) of 0.427 was established to determine ABC for each year.

The original SSC recommendations for red snapper OFL and ABC were based on projections that assumed harvest in 2014 would be the same as in 2013. Provisional landings estimates for 2014 indicated that the recreational 2014 landings were less than in 2013. When the projections were re-run using the provisional 2014 landings, revised OFL and ABC yields were produced The SSC reviewed the updated analysis at a webinar meeting in February 2015, and approved the revised 2015-2017 OFL and ABC yields. The original and revised OFLs and ABCs are listed in Table 3.2.1.

Table 3.2.1. SSC projections for red snapper OFL and ABC 2015-2017

Year	Original Projections		Projections with Provisional 2014 Landings	
	OFL	**ABC**	**OFL**	**ABC**
2015	14.73 mp	13.00 mp	16.13 mp	14.30 mp
2016	14.56 mp	13.21 mp	15.32 mp	13.96 mp
2017	14.40 mp	13.32 mp	14.80 mp	13.74 mp

General Information on Reef Fish Species
Descriptions of habitat types and life history stages can be found in more detail in GMFMC (2004b and 2011b). In general, reef fish are widely distributed in the Gulf of Mexico, occupying both pelagic and benthic habitats during their life cycle. 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 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. Some juvenile snappers (e.g. mutton, gray, red, dog, lane, and yellowtail snappers) and groupers (e.g. Atlantic goliath, 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 GMFMC and SAFMC (1982).

Status of Reef Fish Stocks
The Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico currently encompasses 31 species. A listing of the species can be found in GMFMC (2011b). The National Marine Fisheries Service (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. Stock assessments and stock assessment reviews can be found on the Council (www.gulfcouncil.org) and SEDAR (www.sefsc.noaa.gov/sedar) websites. Assessments have been conducted for 13 Gulf of Mexico (Gulf) reef fish species. Gag, greater amberjack, and gray triggerfish are considered overfished and experiencing overfishing; red snapper is considered overfished but not experiencing overfishing; yellowtail snapper, yellowedge grouper, vermilion snapper, black grouper, red grouper, mutton snapper, hogfish and tilefish (golden) are considered neither overfished nor experiencing overfishing; and the status is undetermined for Atlantic goliath grouper (not experiencing overfishing but there is not enough information to determine the overfished status).

3.3 Description of the Economic Environment

3.3.1 Commercial Sector

Vessel Activity

A description of the red snapper individual fishing quota (IFQ) program is contained in NMFS (2014) and is available at: http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/index.html. This description is incorporated herein by reference and is summarized below. Tables 3.3.1.1 and 3.3.1.2 contain summary vessel and trip counts, landings, and revenue information from vessels landing at least one pound of red snapper from 2009 through 2013. Final data for 2014 is not currently available and data from years prior to the implementation of the IFQ program are not representative of current conditions.

The tables contain vessel counts from the NMFS Southeast Fisheries Science Center (SEFSC) logbook (logbook) data (vessel count, trips, and landings) and the NMFS Southeast Regional Office (SERO) Limited Access Privilege Program (LAPP) data (vessel count). Dockside values were generated using landings information from logbook data and price information from the NMFS SEFSC Accumulated Landings System (ALS) data. The logbook and LAPP data programs serve different purposes and use different data collection methods. Consequently, comparative analysis of data from these programs may produce different results, as evidenced by the vessel counts provided in Table 3.3.1. However, this assessment utilizes logbook data because the logbook program collects data on all species harvested on trips on which red snapper are harvested, as well as harvests by these vessels on trips without red snapper.

On average, 353 vessels per year landed red snapper (Table 3.3.1.1). These vessels, combined, averaged 3,102 trips per year on which red snapper was landed and 1,965 trips without red snapper (Table 3.3.1.1). The average annual total dockside revenue (2013 dollars) was approximately $12.62 million from red snapper, approximately $14.53 million from other species co-harvested with red snapper (on the same trip), and approximately $11.73 million from other species harvested on trips on which no red snapper were harvested (Table 3.3.1.2). Total average annual revenues were approximately $38.88 million, or approximately $110,000 per vessel (Table 3.3.1.2).

Table 3.3.1.1. Summary of vessel counts, trips, and logbook landings (pounds gutted weight (lbs gutted weight - gw)) or vessels landing at least one pound of red snapper, 2009-2013.

Year	Number of Vessels, Logbook Data	Number of Vessels, LAPPs Data	Number of Trips that Caught Red Snapper, Logbook Data	Red Snapper Landings (lbs gw)	"Other Species" Landings Jointly Caught with Red Snapper (lbs gw)	Number of Trips that Only Landed "Other Species"	"Other Species" Landings on Trips without Red Snapper (lbs gw)
2009	296	294	2,329	2,163,632	3,883,389	2,425	4,430,510
2010	375	384	2,970	2,939,254	4,040,460	1,717	3,106,308
2011	368	362	3,389	3,073,697	5,539,520	1,959	4,422,791
2012	365	371	3,432	3,469,118	5,525,735	2,026	4,818,703
2013	359	368	3,389	4,424,324	5,257,821	1,699	3,632,756
Average	353	356	3,102	3,214,005	4,849,405	1,965	4,082,214

Source: NMFS SEFSC Logbook and NMFS SERO LAPPs data.

Table 3.3.1.2. Summary of vessel counts and revenue (thousand 2013 dollars) for vessels landing at least one pound of red snapper, 2009-2013.

Year	Number of Vessels, Logbook Data	Dockside Revenue from Red Snapper	Dockside Revenue from "Other Species" Jointly Caught with Red Snapper	Dockside Revenue from "Other Species" Caught on Trips without Red Snapper	Total Dockside Revenue	Average Total Dockside Revenue per Vessel
2009	296	$8,363,964	$10,216,336	$11,374,349	$29,954,649	$101,198
2010	375	$10,877,659	$11,853,059	$8,462,215	$31,192,933	$83,181
2011	368	$11,345,701	$16,430,998	$12,504,615	$40,281,314	$109,460
2012	365	$13,564,860	$16,866,705	$14,212,201	$44,643,767	$122,312
2013	359	$18,953,553	$17,258,092	$12,099,226	$48,310,871	$134,571
Average	353	$12,621,147	$14,525,038	$11,730,521	$38,876,707	$110,257

Source: NMFS SEFSC Logbook and ALS data.

Commercial fishing for red snapper in 2010 appeared to be unaffected, from a landings and revenue perspective, by conditions associated with the Deepwater Horizon MC252 oil spill. As a result, 2010 data were included in the information provided in Tables 3.3.1.1 and 3.3.1.2. As discussed below, this was not the case for the recreational sector.

Share, Allocation, and Ex-vessel Prices

Price information is an important component for evaluating the performance of a catch share program. Economic theory states that as fishermen no longer have to out-compete other fishermen for a share of the catch, the profits will increase as fishermen adjust the scale and scope of their operations to take advantage of market conditions. This results in increased market stability and value for shares and allocations, as more efficient fishermen are willing to pay higher prices to purchase additional shares and/or allocation from less efficient operators. Theoretically, allocation prices should reflect the expected annual net profit from harvesting one unit of quota, whereas share prices should reflect the present value of the flow of expected net returns from harvesting one unit of quota. Dockside or ex-vessel prices are the price the vessel receives at the first sale of harvest. In 2013, the median share price per pound of red snapper was $40.00 (average price $36.24), the median allocation price per pound was $3.00 (average price $2.98), and the median ex-vessel price per pound was $4.75 (average price $4.46). Similar final data for 2014 are not currently available and data from previous years can be found in NMFS (2014).

Commercial Sector Business Activity

Estimates of the business activity (economic impacts) in the U.S. associated with the Gulf red snapper commercial harvests were derived using the model developed for and applied in NMFS (2011a) and are provided in Table 3.3.1.3. Business activity for the commercial sector is characterized in the form of full-time equivalent (FTE) jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting. The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors).

Table 3.3.1.3. Average annual business activity associated with the harvests of vessels that harvest red snapper, 2009-2013.

Species	Average Annual Dockside Revenue (thousands)[1]	Total Jobs	Harvester Jobs	Output (Sales) Impacts (thousands)[1]	Income Impacts (thousands)[1]
Red snapper	$12.62	2,198	287	$166,176	$70,823
All species[2]	$38.88	6,671	884	$511,870	$218,154

[1]2013 dollars.
[2]Includes dockside revenues and economic activity associated with the average annual harvests of all species, including red snapper, harvested by vessels that harvested red snapper.

In addition to red snapper harvests, as discussed above, vessels that harvested red snapper also harvested other species on trips where red snapper were harvested, as well as on other trips on which no red snapper were harvested. All revenues from all species on all these trips contributed towards making these vessels economically viable and contribute to the economic activity associated with these vessels. The average annual total ex-vessel revenues from all species (including red snapper) harvested during this period (2009-2013) by vessels that harvested red snapper was approximately $38.88 million (2013 dollars). The business activity associated with these revenues is estimated to support 6,671 FTE jobs (884 in the harvesting sector) and are associated with approximately $511.87 million in output (sales) impacts and approximately $218.15 million in income impacts.

Dealers

Commercial vessels landing red snapper can only sell their catch to federally permitted fish dealers. On February 5, 2015, 69 dealers possessed the necessary federal dealer permit and the IFQ endorsement necessary to receive Gulf LAPP species (LAPP data). Because there are no income or sales requirements to acquire a federal dealer permit or IFQ endorsement, the total number of dealers can vary over the course of the year and from year to year. In addition to red snapper, grouper and tilefish are Gulf LAPP species and not all dealers authorized to receive Gulf LAPP species purchase red snapper. The following results are based on assessment of ALS data. In 2012, 92 dealers reported red snapper purchases. Seventy-three of these dealers were in

Florida, six in Texas, six in Louisiana, four in Alabama, and three in Mississippi. Total red snapper purchased by these dealers in 2011 had an ex-vessel value of approximately $13.47 million (2012 dollars), or approximately 12.84% of the total revenues, approximately $104.94 million (2012 dollars), from all marine resource purchases by these dealers. Dependency on red snapper sales varies by dealer, with the percentage of red snapper purchases (value, not pounds) to total purchases varying from less than 1% to 100%. Red snapper purchases in 2012 comprised 10% or more of total purchases for 40 of these dealers, 50% or more for 11 dealers, and 5% or less for 38 dealers. Average red snapper dependency (measured as the percentage of red snapper ex-vessel value relative to the total value of all seafood purchases) was highest for Mississippi and Texas dealers, approximately 34% and 28%, respectively, followed by Alabama (approximately 21%), Florida (approximately 10%), and Louisiana (approximately 8%).

Imports

Information on the imports of all snapper and grouper species, either fresh or frozen, are available at: http://www.st.nmfs.noaa.gov/st1/trade/cumulative_data/TradeDataProduct.html. Information on the imports of individual snapper or grouper species is not available. In 2012, imports of all snapper and grouper species (fresh and frozen) were approximately 44.51 million pounds valued at approximately $128.20 million (2012 dollars). These amounts are contrasted with the domestic harvest of all snapper and grouper in the U.S. in 2012 of approximately 19.60 mp valued at approximately $60.53 million (2012 dollars; data available at: http://www.st.nmfs.noaa.gov/commercial-fisheries/publications/index). Although the levels of domestic production and imports are not totally comparable for several reasons, including considerations of different product form such as fresh versus frozen, and possible product mislabeling, the difference in the magnitude of imports relative to amount of domestic harvest is indicative of the dominance of imports in the domestic market. Final comparable data for more recent years is not currently available.

3.3.2 Recreational Sector

Landings

Recent landings information by state and mode is contained in GMFMC (2014a) and is incorporated herein by reference.

Angler Effort

Recreational effort derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

- 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.

- 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.
- 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 directed trips (the number of individual angler trips that either targeted or caught a particular species), among other measures. Estimates of the number of red snapper target trips and catch trips for the shore, charter, and private/rental boat modes in the Gulf for 2011-2014 are provided in Table 3.3.2.1 and Table 3.3.2.2. Estimates of red snapper target effort for additional years, and other measures of directed effort, are available at http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index.

Table 3.3.2.1. Number of red snapper recreational target trips, by mode, 2011-2014*.

	Alabama	West Florida	Louisiana	Mississippi	Total
	Charter Mode				
2011	19,010	29,642	1,424	0	50,076
2012	16,609	24,653	7,204	74	48,539
2013	23,638	32,689	7,191	38	63,556
2014	8,827	7,364	0	0	16,191
Average	17,021	23,587	3,955	28	44,591
	Private/Rental Mode				
2011	116,886	113,021	19,900	16,790	266,597
2012	72,030	136,594	43,547	13,515	265,687
2013	222,245	461,349	24,691	21,586	729,871
2014	56,274	162,956	0	7,519	226,749
Average	116,859	218,480	22,035	14,853	372,226
	All Modes				
2011	135,896	142,663	21,324	16,790	316,673
2012	88,640	161,247	50,751	13,589	314,227
2013	245,883	494,038	31,882	21,624	793,427
2014	65,101	170,321	0	7,519	242,940
Average	133,880	242,067	25,989	14,881	416,817

* Texas information unavailable. 2014 estimates are preliminary.
Source: MRIP database, NMFS, SERO.
Note: These effort estimates have not been re-calibrated. Re-calibrated effort data are currently unavailable.
Note: There were no target trips recorded from the shore mode.

Table 3.3.2.2. Number of red snapper recreational catch trips, by mode, 2011-2014*.

	Alabama	West Florida	Louisiana	Mississippi	Total
	Charter Mode				
2011	43,550	101,500	3,066	221	148,336
2012	25,252	105,385	10,501	74	141,211
2013	52,331	107,466	12,321	38	172,157
2014	32,173	60,270	0	0	92,443
Average	38,327	93,655	6,472	83	138,537
	Private/Rental Mode				
2011	130,500	203,567	31,957	6,169	372,193
2012	83,783	282,332	51,377	13,515	431,007
2013	227,889	537,469	55,679	29,250	850,287
2014	104,862	190,994	0	10,163	306,018
Average	136,759	303,591	34,753	14,774	489,876
	All Modes				
2011	174,050	305,067	35,023	6,390	520,530
2012	109,035	387,717	61,878	13,589	572,219
2013	280,221	644,935	68,000	29,288	1,022,444
2014	137,035	251,263	0	10,163	398,461
Average	175,085	397,246	41,225	14,858	628,414

* Texas information unavailable. 2014 estimates are preliminary.
Source: MRIP database, NMFS, SERO.
Note: These effort estimates have not been re-calibrated. Re-calibrated effort data are currently unavailable.
Note: There were no catch trips recorded from the shore mode.

Similar analysis of recreational effort is not possible for the headboat mode because headboat data are not collected at the angler level. Estimates of effort by the headboat mode are provided in terms of angler days, or the number of standardized 12-hour fishing days that account for the different half-, three-quarter-, and full-day fishing trips by headboats. The stationary "fishing for demersal (bottom-dwelling) species" nature of headboat fishing, as opposed to trolling, suggests that most, if not all, headboat trips and, hence, angler days, are demersal or reef fish trips by intent.

The distribution of headboat effort (angler days) by geographic area is presented in Table 3.3.2.3. For purposes of data collection, the headboat data collection program divides the Gulf into several areas. On average (2011 through 2013; data for 2014 not currently available), the area from the Dry Tortugas through the Florida Middle Grounds accounted for 39.2% of total headboat angler days in the Gulf, followed by northwest Florida through Alabama (35.7%), Texas (23.5%), Mississippi (<1%) and Louisiana (<1%). Western Florida, Northwest Florida through Alabama, and Texas all experienced steady increases to three-year highs in 2013. In Louisiana, the number of headboat angler days decreased slightly in 2012 and then dropped

further in 2013 to a three-year low. In Mississippi, the number of angler days increased in 2012 and then decreased slightly in 2013.

Table 3.3.2.3. Headboat angler days and percent distribution, by state, 2011 – 2013 (2014 unavailable).

	Angler Days					Percent Distribution				
	FLW	**FL-AL***	**LA**	**TX**	**MS**	**FLW**	**FL-AL**	**LA**	**TX**	**MS**
2011	79,722	77,303	1,886	47,284	1,771	38.3%	37.2%	0.9%	22.7%	0.9%
2012	84,205	77,770	1,839	51,776	1,841	38.7%	35.8%	0.8%	23.8%	0.8%
2013	94,752	80,048	1,579	55,749	1,827	40.5%	34.2%	0.7%	23.8%	0.8%
Average	86,226	78,374	1,768	51,603	1,813	39.2%	35.7%	0.8%	23.5%	0.8%

Source: NMFS Southeast Region Headboat Survey (SRHS).
FLW = Florida from the Dry Tortugas through the Florida Middle Grounds, FL-AL = northwest Florida and Alabama, MS = Mississippi, LA = Louisiana, TX = Texas from Sabine Pass-Freeport south to Port Isabel.
*For 2013, SRHS data was reported separately for NW Florida and Alabama, but has been combined here for consistency with previous years.

Headboat effort in terms of angler days for the entire Gulf was concentrated most heavily during the summer months of June through August on average (2011 through 2013) (Table 3.3.2.4). The monthly trend in angler days was very similar across years, building gradually from January through May, rising sharply to a peak in June and July, dropping rapidly through September, increasing slightly in October, then tapering through December.

Table 3.3.2.4. Headboat angler days and percent distribution, by month, 2011 – 2013 (2014 unavailable).

	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
	Headboat Angler Days											
2011	5,242	9,174	16,378	17,626	16,148	39,775	42,089	22,513	10,766	12,609	8,514	7,132
2012	7,924	9,364	18,326	16,404	17,708	39,662	46,468	21,440	12,629	13,281	7,135	7,090
2013	8,630	9,576	16,759	16,426	17,150	47,791	38,304	27,610	12,697	21,256	8,654	9,102
Avg	7,265	9,371	17,154	16,819	17,002	42,409	42,287	23,854	12,031	15,715	8,101	7,775
	Percent Distribution											
2011	2.5%	4.4%	7.9%	8.5%	7.8%	19.1%	20.2%	10.8%	5.2%	6.1%	4.1%	3.4%
2012	3.6%	4.3%	8.4%	7.5%	8.1%	18.2%	21.4%	9.9%	5.8%	6.1%	3.3%	3.3%
2013	3.7%	4.1%	7.2%	7.0%	7.3%	20.4%	16.4%	11.8%	5.4%	9.1%	3.7%	3.9%
Avg	3.3%	4.3%	7.8%	7.7%	7.7%	19.3%	19.3%	10.8%	5.5%	7.1%	3.7%	3.5%

Source: NMFS Southeast Region Headboat Survey (SRHS).

Permits

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

A federal for-hire vessel permit has been required for both types of vessels for reef fish since 1996 and is a limited access permit. On February 6, 2015, there were 1,325 valid (non-expired) or renewable Gulf Charter/Headboat Reef Fish permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the Southeast Fishery Science Center (SEFSC) that the vessel primarily operates as a headboat. As of December 2, 2014, 69 Gulf headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.). The majority of these headboats were located in Florida (37), followed by Texas (16), Alabama (9), and Mississippi/Louisiana (7).

Information on Gulf charter boat and headboat operating characteristics is included in Savolainen et al. (2012) and is incorporated herein by reference.

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. For the for-hire sector, customers are authorized to fish under the charter or headboat vessel license and are not required to hold their own fishing licenses. 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 action.

Economic Value

Economic value can be measured in the form of consumer surplus (CS) per additional red snapper kept on a trip for anglers (the amount of money that an angler would be willing to pay for a fish in excess of the cost to harvest the fish). The estimated value of the CS per fish for a second red snapper kept on a trip is approximately $79.72 (Carter and Liese 2012; values updated to 2013 dollars[5]).

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net

[5] Converted to 2013 dollars using the 2013 annual Consumer Price Index (CPI) for all US urban consumers provided by the Bureau of Labor and Statistics (BLS).

operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The estimated NOR value is $151 (2013 dollars) per charter angler trip (Liese and Carter 2012). The estimated NOR value per headboat angler trip is $52.12 (2013 dollars) (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR per red snapper target trip are not available.

Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

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 Marine Recreational Fisheries Statistics Survey (MRFSS) to collect economic expenditure information, as described and utilized in NMFS (2011a). Estimates of the average expenditures by recreational anglers are also provided in NMFS (2011a) and are incorporated herein by reference.

Recreational fishing generates business activity (economic impacts). Business activity for the recreational sector is characterized in the form of full-time equivalent jobs, output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Estimates of the average red snapper target effort (2011-2014) and associated business activity (2013 dollars) are provided in Table 3.3.2.5. West Florida experienced the highest level of business activity associated with recreational red snapper fishing for all the Gulf States[6], followed by Alabama.

The estimates provided in Table 3.3.2.5 only apply at the state-level. These numbers are not additive across the region. Addition of the state-level estimates to produce a regional (or national total) could either under- or over-estimate the actual amount of total business activity because of the complex relationship between different jurisdictions and the expenditure/impact multipliers. Neither regional nor national estimates are available at this time.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in the MRFSS/MRIP so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted.

[6] Excludes Texas for which target effort data is unavailable.

Table 3.3.2.5. Summary of red snapper target trips (2011-2014 average) and associated business activity (2013 dollars). Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
	Private/Rental Mode				
Target Trips	116,859	218,480	22,035	14,853	*
Output Impact	$6,315,390	$11,814,604	$1,665,404	$522,744	*
Value Added Impact	$3,417,684	$6,690,075	$800,292	$265,885	*
Jobs	68	102	13	5	*
	Charter Mode				
Target Trips	17,021	23,587	3,955	28	*
Output Impact	$10,877,226	$17,296,998	$1,912,720	$11,340	*
Value Added Impact	$7,443,794	$11,563,972	$1,315,226	$7,988	*
Jobs	106	152	15	0	*
	All Modes				
Target Trips	133,880	242,067	25,989	14,881	*
Output Impact	$17,192,616	$29,111,602	$3,578,124	$534,084	*
Value Added Impact	$10,861,478	$18,254,047	$2,115,518	$273,873	*
Jobs	174	255	28	5	*

*Because target information is unavailable, associated business activity cannot be calculated.
Note: There were no target trips recorded from the shore mode.
Source: effort data from the MRIP, economic impact results calculated by NMFS SERO using the model developed for NMFS (2011b).
Note: 2014 estimates are preliminary.

3.4 Description of the Social Environment

This section provides background and current descriptions of recreational and commercial red snapper fishing for which the proposed action will be evaluated in Chapter 4. The following description focuses on the management of both sectors. Recent amendments have included thorough descriptions of both sectors and will be incorporated by reference as necessary. More recent information will be provided when available.

Commercial Fishing

The commercial red snapper fleet has undergone significant change following the implementation of the red snapper individual fishing quota (IFQ) program. Under IFQ program management, derby-style fishing has disappeared and somewhat more stable and higher prices have occurred according to the most recent review (GMFMC 2013d). Since the most recent quota increase (GMFMC 2013b, Fig. 3.4.2), there has been little change in landings by community as depicted in Figure 3.4.1.

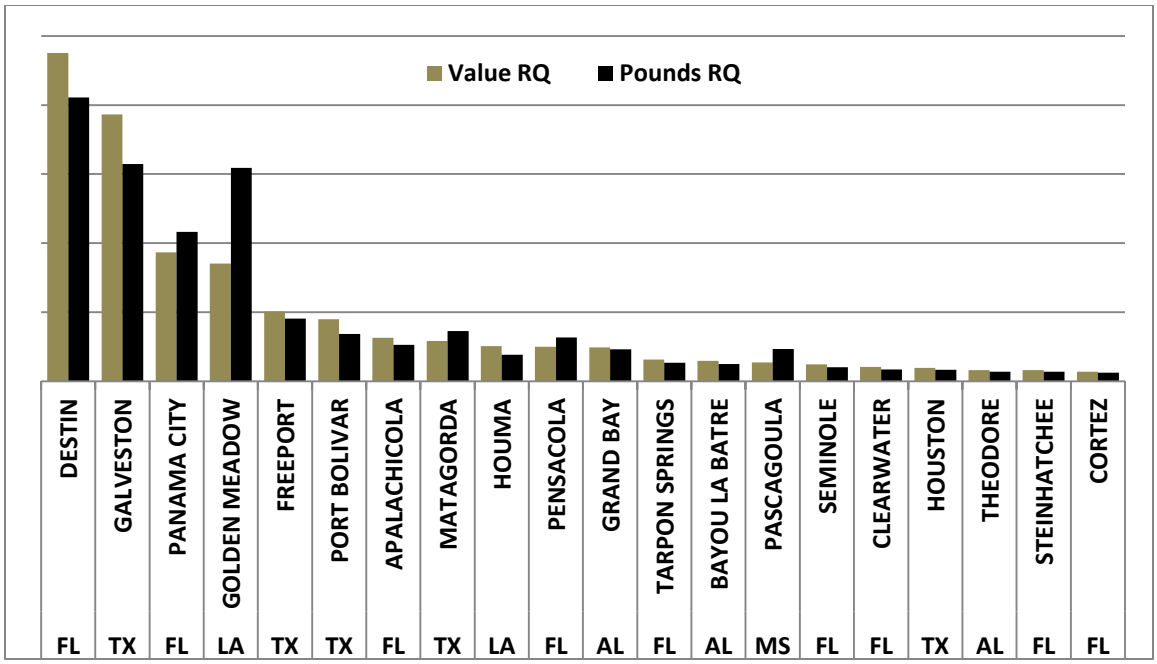

Figure 3.4.1. Proportion of red snapper commercial landings (value and pounds) for top 20 Gulf communities out of total pounds and landings of red snapper in the Gulf. Source: ALS dealer reports 2012.

With more recent data at the community level, the rank in regional quotient for red snapper for most communities has not shifted significantly, with some communities attaining a slightly higher rank and others sliding to a slightly lower rank. Overall, the general make up of those communities in the top ten has changed little from previous amendments (GMFMC 2013b). With little change noted, the majority of dealer-reported landings are still made in the Florida Panhandle, the Louisiana Delta area, and the northern Texas coast (GMFMC 2013b, Fig. 3.4.1). The top ten communities with the largest number of shareholder accounts have also changed very little. Panama City, Florida continues to have the most shareholder accounts, with nearly twice as many as the second ranking community, Destin, Florida (GMFMC 2013b, Table.3.4.3)

Although there has been little change in regional quotient in recent years, and fishing engagement and reliance for commercial fishing communities has not changed much since previous amendments referenced, the same is not true for the local quotient at the community level. The local quotient is the proportion of a species landed within a community out of all species landed. There has been a slight shift in terms of red snapper local quotient for several communities. In most cases, red snapper has risen in terms of its importance within the community.

In Figure 3.4.2, red snapper has become the top species for Destin in terms of value replacing king and cero mackerels, which lead in terms of pounds of local quotient. Previously, red snapper was ranked third in terms of the local quotient (GMFMC 2013b, Fig. 3.4.3).

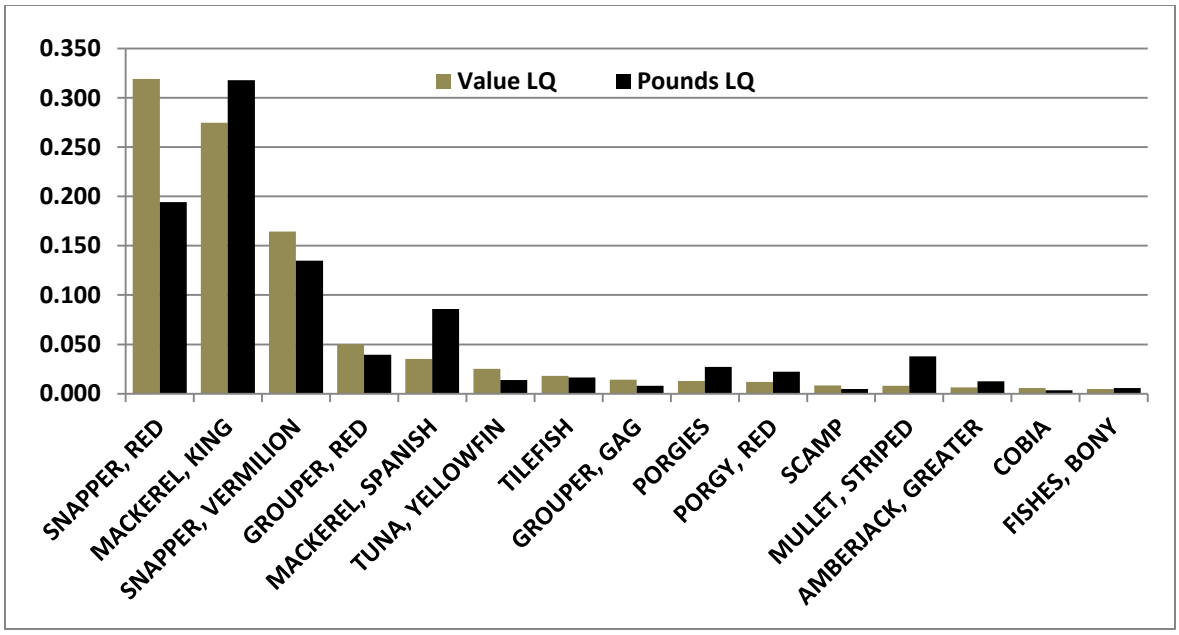

Figure 3.4.2. Proportion (lq) of commercial landings and value for top 15 species out of total landings and value for Destin, Florida. Source: ALS dealer reports 2012.

Galveston, Texas (Figure 3.4.3) ranks second for red snapper with 18% of the local quotient value. This places red snapper in between white shrimp, at over 53% of the total value of commercial landings in Galveston, and brown shrimp, at just below 15%. Previously, red snapper ranked third for local quotient value (GMFMC 2013b, Fig. 3.4.4).

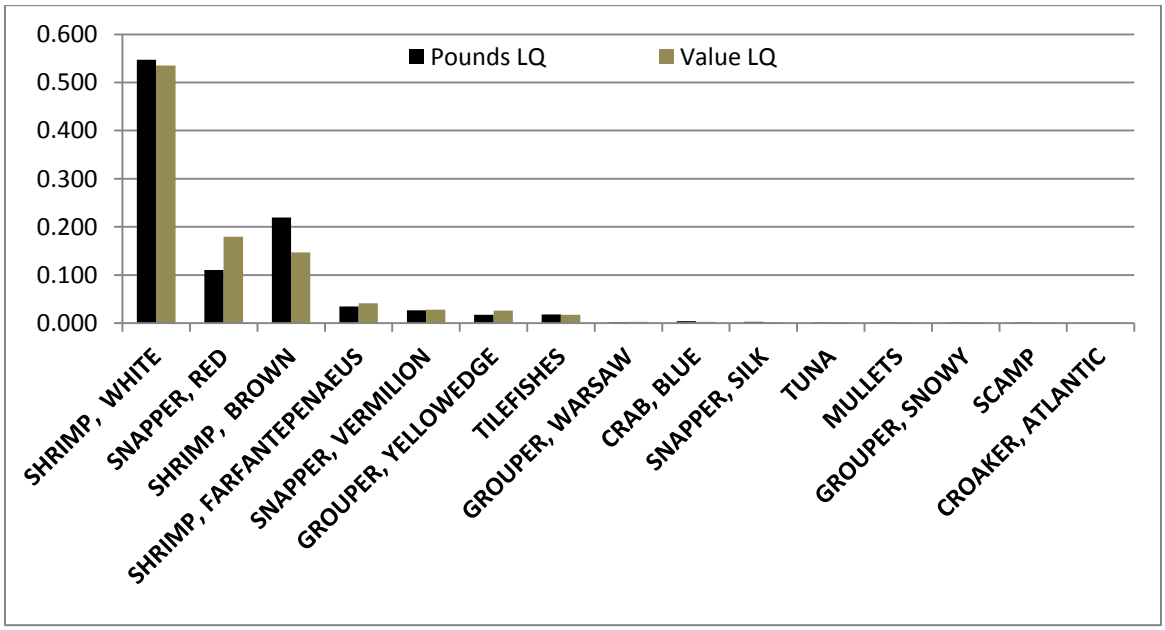

Figure 3.4.3. Proportion (lq) of commercial landings and value for top 15 species out of total landings and value for Galveston, Texas. Source: ALS dealer reports 2012.

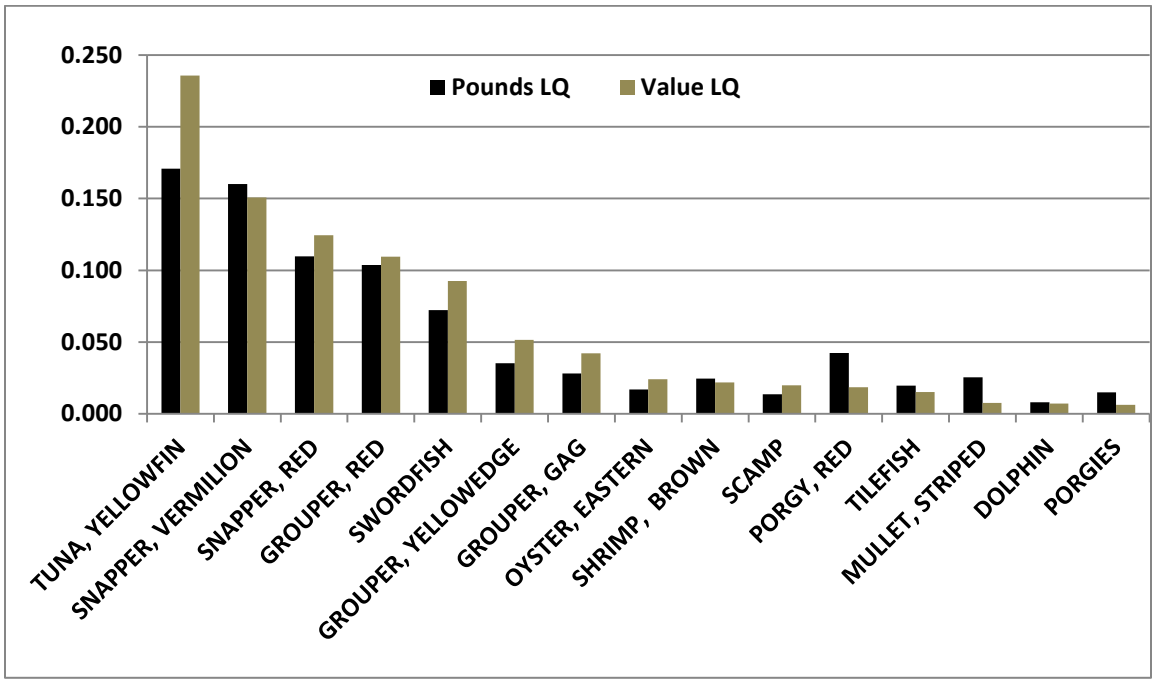

Figure 3.4.4. Proportion (lq) of commercial landings and value for top 15 species out of total landings and value for Panama City, Florida. Source: ALS dealer reports 2012.

In Panama City, red snapper now ranks third with just over 10% of the local quotient value, an increase in rank from fifth, with only 5% of local quotient value (GMFMC 2013b). Golden Meadow, Louisiana which ranked third in terms of regional quotient value and first in terms of regional quotient pounds. In 2012, the local quotient of red snapper in Golden Meadow was just under 10% out of the total pounds of value of commercial landings in the community. Within Golden Meadow, then, red snapper ranks third among commercially landed species for pounds and value, following white and brown shrimp. Together, white and brown shrimp represent more than 70% of Golden Meadow's commercial landings.

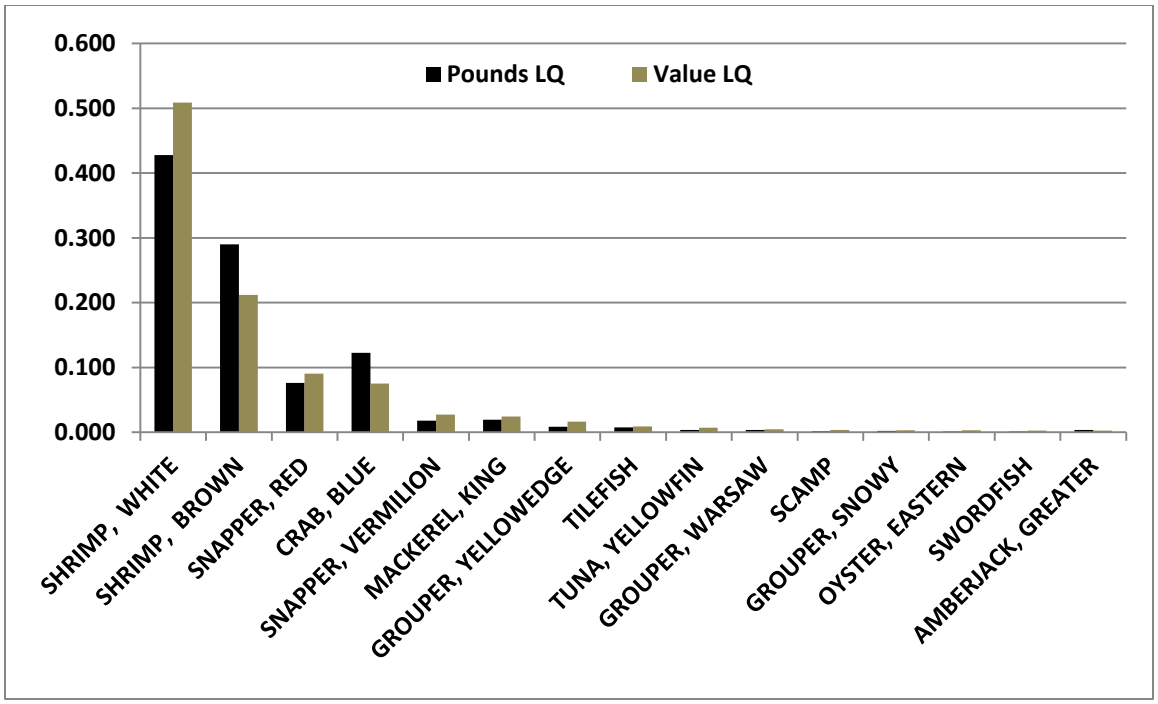

Figure 3.4.5. Proportion (lq) of commercial landings and value for top 15 species out of total landings and value for Golden Meadow, Louisiana. Source: ALS dealer reports 2012.

Overall, most commercial fishing communities with high red snapper regional quotients (those with the greatest commercial landings Gulf-wide) have also seen a rise in red snapper's local quotient (the rank of red snapper among other species landed in the community) compared to other species.

Recreational Fishing

Regarding the recreational sector, as in previous amendments, Florida leads in total red snapper recreational landings, followed by Alabama, Louisiana, Texas, and Mississippi, respectively (GMFMC 2013b, Table 3.4.1). There has been no change in the rank of communities in terms of their recreational fishing engagement and reliance (GMFMC 2013b Table 3.4.2). Destin, Florida ranks first followed by Orange Beach, Alabama; Panama City, Florida; Port Aransas, Texas; and Pensacola, Florida, as the top five, respectively.

There has been little change in the location of headboats with red snapper landings in the Gulf, as they are also primarily located in Florida, followed by Texas, Alabama, Mississippi, and Louisiana, respectively (GMFMC 2014, Table 3.4.1.3).

Because limited data are available concerning how recreational fishing communities are engaged and reliant on specific species, a set of indices were created using secondary data from permit and infrastructure information for the southeast recreational fishing sector at the community level (Jepson and Colburn 2013; Jacob et al. 2013). Using a principal component and single solution factor analysis, each community receives a factor score for each index to compare to other communities. With a selected group of communities that may have red snapper fishing activity,

factor scores of both engagement and reliance were plotted onto bar graphs. Factor scores are denoted by colored bars and are standardized, therefore the mean is zero. Two thresholds of one and ½ standard deviation above the mean are plotted onto the graphs to help determine a threshold for significance. Figure 3.4.6 identifies the recreational communities that are engaged and reliant upon fishing in general. Using thresholds of fishing dependence of ½ standard deviation and one standard deviation, Figure 3.4.6 suggests that several communities are substantially engaged in recreational fishing.

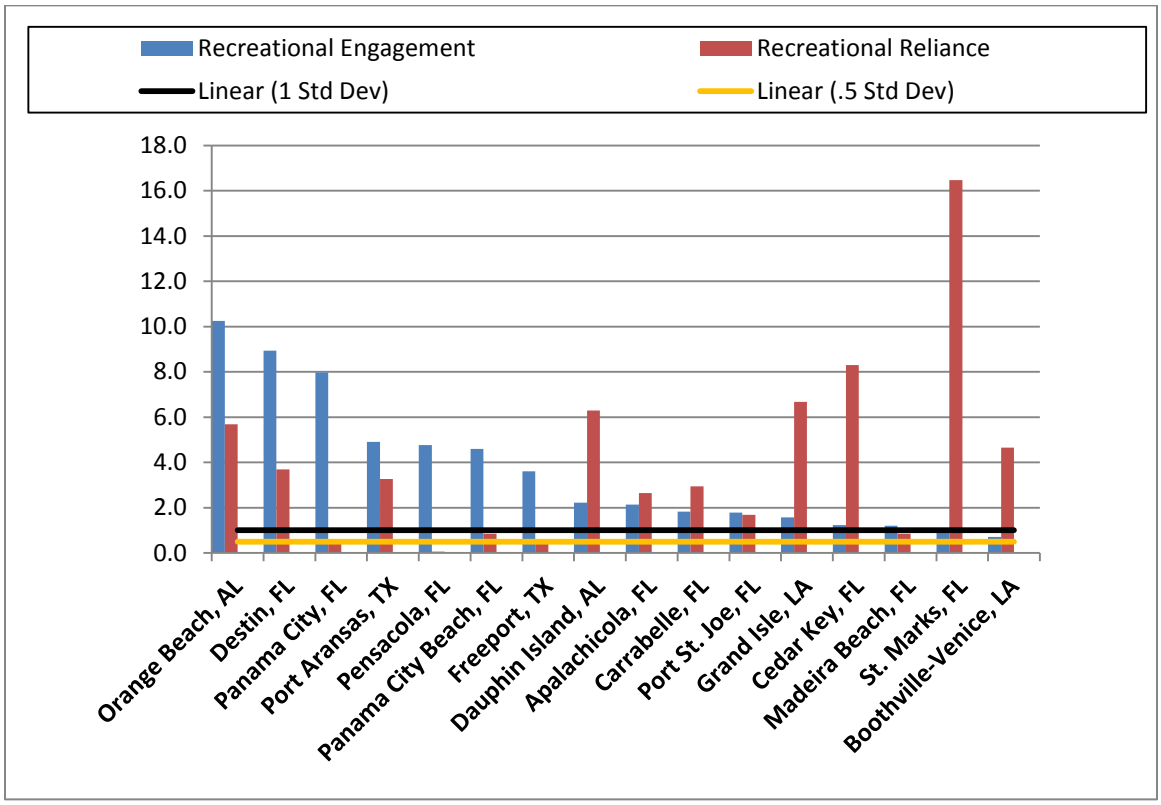

Figure 3.4.6. Top 16 recreational fishing communities' engagement and reliance.
Source: SERO Social indicators database (2012).

Environmental Justice

To help assess the environmental justice concerns within this amendment, a suite of indices were created to examine the social vulnerability of coastal communities. The three indices 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 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, disruptions such as higher separation rates, higher crime rates, and unemployment all are signs of populations experiencing vulnerabilities. Again, for those communities that exceed the threshold it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

As depicted in Figure 3.4.7, the commercial fishing communities of Apalachicola, Florida, Golden Meadow, Louisiana, and Bayou La Batre, Alabama, exceed the threshold of ½ standard deviation above the mean for at least one or more of the social vulnerability indices. It would be expected that these communities may exhibit vulnerabilities to social or economic disruption because of regulatory change. Those communities that exhibit several index scores exceeding the threshold would be the most vulnerable. These include Apalachicola, Florida; Golden Meadow, Louisiana; Bayou La Batre, Alabama; Pascagoula, Mississippi; and Freeport, Texas. Social effects resulting from action taken in this plan amendment are likely to be greatest in these communities.

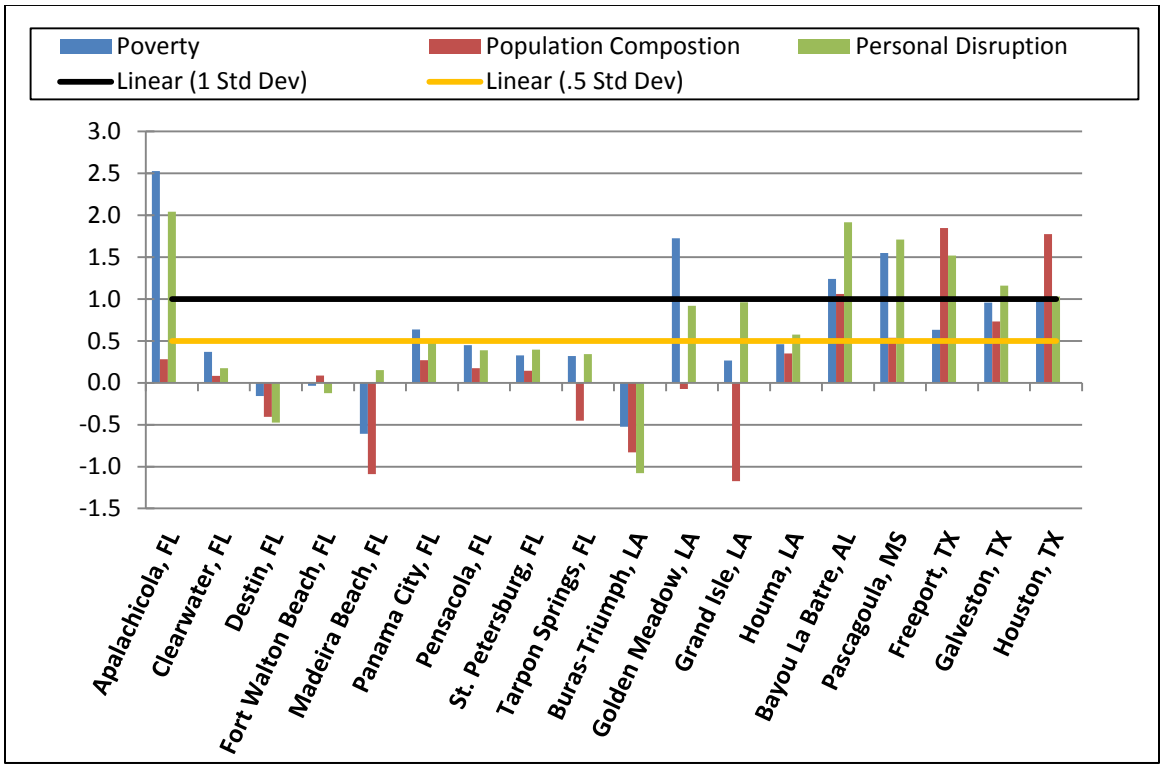

Figure 3.4.7. Social vulnerability indices for red snapper commercial fishing communities.
Source: SERO Social indicators database (2012).

Figure 3.4.8 represents the social vulnerability of recreationally engaged communities in terms of the same three indices: poverty, population composition, and personal disruptions. Again, for those communities that exceed the threshold it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change. Three communities exceed the threshold of one standard deviation above the mean for two of the indices (Freeport, Texas; Apalachicola and Carrabelle, Florida), and would be the communities most likely to exhibit vulnerabilities to social or economic disruption due to regulatory change.

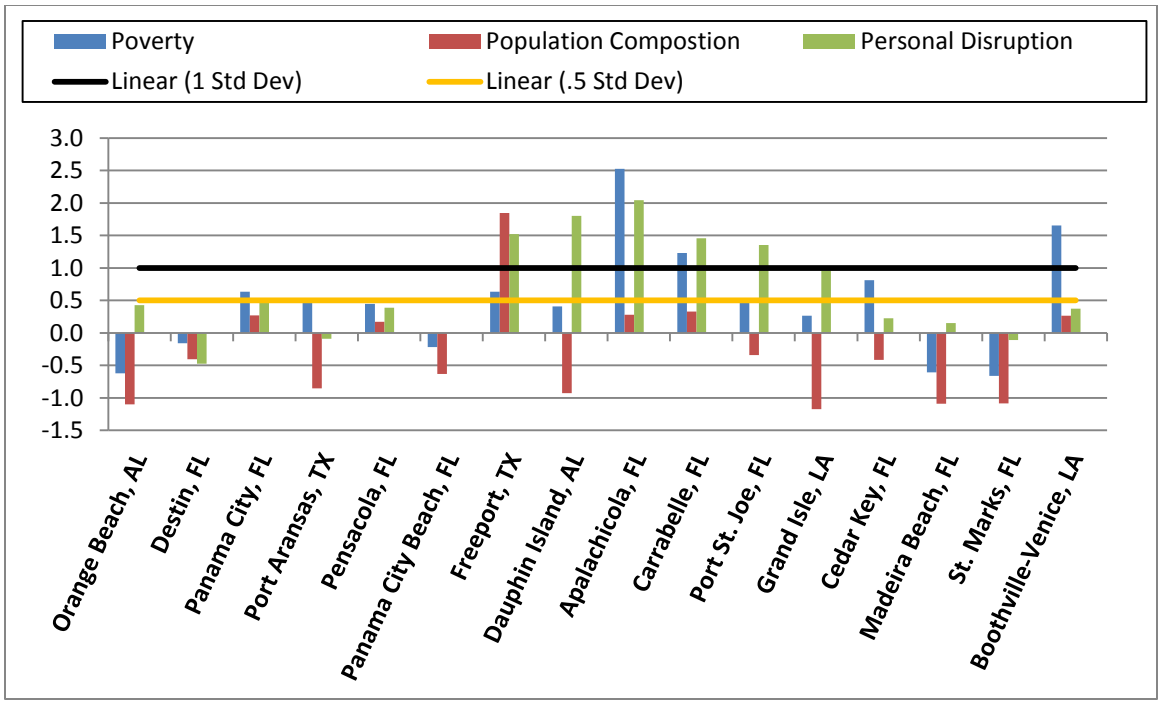

Figure 3.4.8. Social vulnerability indices for recreational fishing communities.
Source: SERO Social indicators database (2012).

Although we have information concerning the community's overall status with regard to minorities and poverty, we do not have such information for fishermen themselves. Therefore, we can only place our fishing activity within the community as a proxy for understanding the role that minorities and poverty have in the vulnerability of those being affected by regulatory change. There are no known claims for customary usage or subsistence consumption of red snapper by any population including tribes or indigenous groups in the Gulf. The proposed action would increase the amount of red snapper available for harvest by both the commercial and recreational sectors and is expected to result in benefits to participants in both sectors. Thus, it is unlikely that there would be any environmental justice concerns, which would disproportionately affect minorities or those in poverty.

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 (EEZ), 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 EEZ.

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

The red snapper stock in the Gulf of Mexico is classified as overfished, but no longer undergoing overfishing. A rebuilding plan for red snapper was first implemented under Amendment 1 to the FMP (GMFMC 1989), and has undergone several revisions. The current rebuilding plan was established in Amendment 27 to the FMP (GMFMC 2007), and calls for rebuilding the stock to a level capable of supporting MSY on a continuing basis by 2032. Periodic adjustments to the annual catch limit and other management measures needed to affect rebuilding are implemented through amendments and framework actions.

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 to the FMP (GMFMC 2004a).

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1 - Establish Red Snapper Quotas from 2015 through 2017+

4.1.1 Effects on the Physical Environment

Direct and indirect effects on the physical environment when fishing for red snapper have been discussed in detail in Amendment 22 to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (FMP) (GMFMC 2004a) and Amendment 27 to the FMP (GMFMC 2007). This information is incorporated here by reference and summarized below.

The primary gear used in commercial and recreational fishing for red snapper is vertical line gear. Some commercial landings are from bottom longlines, but this component of the commercial sector lands a small percentage of the total commercial harvest (SEDAR 31 2013). Vertical line gear has the potential to snag and entangle bottom structures. Each individual gear has a very small footprint, and thus only a small potential for impact, but the cumulative impact of the commercial and recreational fishing sector results in a large amount of gear being placed in the water, increasing the potential for impact. The line and weights used by this gear type also can cause abrasions (Barnette 2001). Additionally, vertical line vessels often anchor when fishing, adding to the potential damage of the bottom at fishing locations. Bottom longlines have the potential to break or move hard structures on the sea floor, including rocks, corals, sponges, other invertebrates, and algae, when the line sweeps the bottom (Barnette 2001). If vertical and longline gear are not removed, long-term indirect effects to habitat may occur if the line becomes overgrown with algae or marine life becomes entangled (Hamilton 2000; Barnette 2001).

Changes to the harvest limits could affect the physical environment, due to the increase in the amount of fishing effort and gear type interacting with the substrate over the course of the fishing season. Therefore, the greatest impacts would be associated with the highest quotas in **Preferred Alternative 2**, and be slightly less with **Alternative 3**. **Alternative 1** would have no change in effort and the least impact on the physical environment. The increase in fishing associated with the higher quotas is expected to result in minimal effects to the physical environment when considered in the context of the reef fish fishery as a whole.

This action is not expected to change the manner in which the fishery is conducted, except to extend the recreational season and to allow greater harvest by both the commercial and recreational sectors. Few additional impacts on the environment would be expected from the proposed actions relative to recent years because the number of fishing days would be about the same total days as last year. Under Amendment 40 to the FMP, currently being reviewed by NMFS for implementation, the for-hire and recreational sectors would be separated and harvest under separate regulations. If implemented, the spatial and temporal distribution of fishing effort could differ from previous years. However, it is not likely to increase the overall effects to the physical environment. For the same reasons discussed above, this action, considered in the context of the fishery as a whole would not be expected to have an adverse impact on essential fish habitat (EFH).

4.1.2 Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper and from changes in total allowable catch (sector quotas) have been discussed in detail in Amendment 22 to the FMP (GMFMC 2004a) and Amendment 27 to the FMP (GMFMC 2007), and in the March 2013 Framework Action (GMFMC 2013a) and are incorporated here by reference and summarized below. Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a) and are also incorporated here by reference and summarized below.

Due to overharvest by the recreational sector, the acceptable biological catch (ABC) has been exceeded in five of the last seven years. The ABC was not exceeded in 2010, the year of the Deepwater Horizon MC252 oil spill, due to reductions in fishing effort resulting from large area closures that were in place for most of the summer. The ABC was not exceeded in 2014 due to the emergency implementation of an ACT set 20 percent below the recreational quota. The Gulf of Mexico Fishery Management Council's (Council) Scientific and Statistical Committee (SSC) reviewed the 2014 update assessment information at the January 2015 meeting. The results indicated the stock biomass estimates continue to increase in both the east and west, but remain below the management target of 26% of unfished spawning potential. The stock biomass estimates remain below the minimum stock size threshold, which indicates the stock remains in an overfished condition. However, estimated fishing mortality remains below the maximum fishing mortality threshold, which indicates overfishing is not occurring and the rebuilding plan remains on schedule.

All alternatives are expected to allow the stock to recover by 2032, resulting in positive effects and maintaining consistency with the rebuilding plan. Any future increases in the quotas would also need to be consistent with this plan. **Alternative 1**, because it has the lowest quotas, may allow the stock to recover more quickly than the other alternatives. **Alternative 1** would also provide the greatest protection from overfishing should the stock projections be overly optimistic or should some change occur in the stock that lowers its productivity, such as an episodic mortality event, natural disturbance, or a negative impact from the Deepwater Horizon MC252 oil spill that is as yet unrealized.

Preferred Alternative 2 would set the annual total quota at the ABC for each year. This would result in a decreasing quota from 2015 (14.30 mp) to 2017 (13.74 mp). **Alternative 3** would set the annual total quota at a fixed catch level equal to the smallest ABC (13.74 mp) for 2015 to 2017. The greatest risk of overfishing would be expected from **Preferred Alternative 2** for 2016 and 2017, followed by **Alternative 3,** and **Alternative 1**. However, this risk is small because of the buffer between the ABCs and OFLs, the IFQ system that restrains the commercial sector harvest, and the AMs for the recreational sector that are in the process of being implemented. Further, even if the yield at $F_{Rebuild}$ (i.e., $F_{SPR26\%}$) is exceeded in the short term, subsequent rebuilding projections can produce a revised yield stream that takes such overharvest into account. Consequently, all alternatives are expected to allow the stock to remain within the rebuilding plan time period.

The increase in quotas through **Preferred Alternative 2** and **Alternative 3** would inherently increase the fishing effort, and in turn, the effects on the biological environment including targeted and non-targeted species. However, these effects would be minimal given the overall effort in the reef fish fishery.

As discussed in Chapter 2, NMFS is currently reviewing Amendment 40 which would divide the recreational quota between the charter/headboat component (42.3%) and the private vessel component (57.7%). This action would redistribute the fishing effort in the recreational sector. Depending on further changes to seasons and fishing days, this segregation could affect the biological environment; however, these effects are unknown at this time.

Indirect effects of these alternatives on the ecological environment are not well understood. Changes in the population size structure, as a result of shifting fishing selectivities and variations in stock abundance, could impact abundance of other reef fish species. Predators of red snapper could increase if red snapper abundance is increased, while species competing for similar resources as red snapper could potentially decrease in abundance if food and/or shelter are less available. Another effect of an expanding red snapper population could be a continuation of the reestablishment of red snapper populations in historical areas of occurrence in the eastern Gulf of Mexico (Gulf). As the red snapper stock rebuilds, the average size of red snapper caught in the recreational sector of the reef fish fishery is also increasing. As a result, the recreational quota has been reached faster with fewer fish caught, causing shorter seasons despite quota increases (see http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/red_snapper/index.html). Because of the resultant extended closed seasons, fishermen may be changing targeting practices away from red snapper and onto alternate closely associated species. Species likely to be affected by changes in red snapper abundance include vermilion snapper, gray triggerfish, and gag, which all co-occur with red snapper. However, these species are managed using annual catch limits so any impacts from changes in fishing effort will be minimal.

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 spill in the northern Gulf), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf 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 2011b). On July 10, 2014, NMFS published a final rule (79 FR 39855) that designated 38 occupied marine areas within the Atlantic Ocean and Gulf of Mexico as critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle Distinct Population Segment. These areas contain one or a combination of nearshore reproductive habitat, winter area, breeding areas, and migratory corridors. The final rule also included some areas that contain foraging habitat and two large areas that contain Sargassum habitat as critical habitat.

On September 10, 2014, NMFS published a final rule to list 22 coral species under the ESA (79 FR 53851). Five of the 22 species occur in the Gulf region; however, because of protections including closed areas identified in Section 3.1, NMFS determined the continued authorization of the Gulf reef fish fishery is not likely to jeopardize the continued existence of any species proposed for listing. 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. Other listed species and designated critical habitat in the Gulf were determined not likely to be adversely affected.

The proposed action relates to the harvest of an indigenous species in the Gulf, and the activity being altered does not itself introduce non-indigenous species, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread of non-indigenous species.

4.1.3 Effects on the Economic Environment

Commercial Sector

Alternative 1 would maintain the current commercial red snapper quota of approximately 5.61 mp ww. Therefore, changes in ex-vessel value, gross revenue, and share and allocation value would not be expected to result from this alternative. However, **Alternative 1**, status quo, would be expected to result in adverse indirect economic effects due to fishing opportunities forgone by red snapper IFQ participants.

Estimates of the proposed increase in the red snapper commercial quota and associated expected change in ex-vessel value, gross revenues (ex-vessel value net of 3% cost recovery fee), IFQ share values, and IFQ allocation values for **Preferred Alternative 2** are provided in Table 4.1.3.1. These estimates are based on the median values of $4.75, $40.00, and $3.00 (all values in 2013 dollars) for ex-vessel value, share, and allocation prices per pound gutted weight (gw) of red snapper, respectively, derived from 2013 transactions. The mean values in 2013 for the ex-vessel, share, and allocation prices were $4.46, $36.24, and $2.98 per pound gw, respectively. However, median values are used in this analysis because of the large number of zeros reported in share and allocation transactions.

Table 4.1.3.1. Preferred Alternative 2 - Proposed increase in the red snapper commercial quota (relative to the status quo) and associated estimated change in ex-vessel value, gross revenue (ex-vessel value net of 3% cost recovery fee), share value, and allocation value per pound gutted weight. Quotas in million pounds; dollar values in million 2013 dollars. For simplification, discounting is not applied to dollar values due to the short time span of the analysis (3 years).

Year	Commercial Quota (mp)		Ex-Vessel	Gross	Share	Allocation
	Whole weight	Gutted Weight	Value	Revenues	Value	Value
2015	1.680	1.514	$7.189	$6.974	$60.541	$4.541
2016	1.510	1.360	$6.462	$6.268	$54.414	$4.081
2017	1.400	1.261	$5.991	$5.811	$50.450	$3.784
Total	4.590	4.135	$19.642	$19.053	$165.405	$12.405

Under **Alternative 3,** the commercial red snapper quota would be increased by 1.26 mp gw compared to the status quo and held constant through 2017. As a result, between 2015 and 2017, annual increases in ex-vessel value, gross revenues, share value, and allocation value are estimated at $5.9 million, $5.8 million, $50.4 million and 3.8 million respectively. Between 2015 and 2017, total increases in ex-vessel value, gross revenues, share value and allocation value (obtained by multiplying annual increases by three) are estimated at $18.0 million, $17.4 million, $151.4 million and $11.4 million, respectively.

As previously discussed, the commercial red snapper harvest in the Gulf is managed under an individual fishing quota (IFQ) program. Although IFQ shares are considered a privilege that can be revoked, they are assets that can be freely exchanged in markets and used as collateral for loans. If red snapper IFQ shares are traded in well-functioning markets, IFQ share prices should be a reflection of the stream of discounted net benefits expected to be derived from holding an additional unit of IFQ share. Detailed discussions on IFQ markets and on determinants of share prices in IFQ markets are provided in Newell et al. (2005a, 2005b). Because IFQ share prices reflect the stream of net benefits expected to derive from an IFQ share, an evaluation of the potential economic effects based on changes in overall asset values would capture long-term economic changes. Short-term economic effects can be approximated by the estimating changes in the aggregate value of red snapper annual allocations. The proposed increases in the red snapper commercial quota would be expected to result in a total increase in IFQ share value for 2015-2017 ranging from approximately $151.3 million (**Alternative 3**) to approximately $165.4 million (**Preferred Alternative 2**). Annual sale (leasing) of the proposed increased quota would be expected to result in a total increase in allocation value ranging from approximately $11.4 million (**Alternative 3**) to approximately $12.4 million (**Preferred Alternative 2**) per year.

Recreational Sector

Alternative 1, status quo, would maintain the current red snapper recreational quota and ACT of 5.39 mp and 4.31 mp, respectively. Therefore, changes in economic value would not be expected to result from this alternative. However, **Alternative 1**, would be expected to result in adverse indirect economic effects due to fishing opportunities that would be forgone by recreational red snapper fishermen.

The evaluation of the changes in economic value expected to result from recreational red snapper quota increases is based on consumer surplus estimates provided by Agar and Carter (2014). For recreational anglers who prefer to fish for red snapper, Agar and Carter (2014) estimated the mean net benefit (consumer surplus) per pound of red snapper at $11.21 in 2012 dollars. Converting this estimate into 2013 dollars using the Bureau of Labor Statistics consumer price index for all urban consumers (http://www.bls.gov/data/) results in mean net benefit of $11.37 per pound of red snapper. Estimated increases in economic value that are expected to result from higher recreational red snapper quotas are approximated by multiplying the change in quota by the mean net benefit per pound of red snapper. It follows that, regardless of the magnitude of the mean benefit estimate used, greater increases in recreational quota would be expected to result in larger increases in economic value. The estimated changes in economic value provided in this section do not include any increases in producer surplus (the amount of money that a vessel owner earns in excess of the cost of providing the trip) that for-hire operators might receive due to additional red snapper trips. Estimates of the potential changes in for-hire trips expected to result from proposed quota increases are not available due to several factors including uncertainties in the current regulatory environment in the Gulf and their impact on the federal recreational red snapper season, e.g., structure and length of fishing seasons in state waters, as well as an inability to determine what portion of the proposed increased quota would be expected to be harvested by trips that would occur regardless of any change in quota. Although quantifying potential changes in producer surplus would result in larger total changes in economic values, the addition of producer surplus estimates to the changes in economic value provided would not affect the ordinal ranking of the economic effects of the proposed quota increases. Estimated changes in economic value are provided in this section only for the purpose of comparing the alternatives. Additionally, due to the lack of mechanisms to sort the recreational anglers according to their willingness to pay (Holzer and McConnell, 2014; Abbott, 2015), the actual increases in economic value (consumer surplus) that could be expected to result from increases in the red snapper recreational quota are not known. It is expected, however, that greater quota increases would result in greater increases in economic value, as long as the quota increases are not associated with detrimental effects to the red snapper stocks. The proposed increases in recreational red snapper quota and estimates of associated changes in net benefits for **Preferred Alternative 2** are provided in Table 4.1.3.2.

Table 4.1.3.2. Preferred Alternative 2 - Proposed increase in the red snapper recreational quota (relative to the status quo) and associated estimated change in economic value. Quotas in million pounds; economic values in million 2013 dollars. For simplification, discounting is not applied to dollar values due to the short time span of the analysis (3 years).

Year	Recreational Quota Increase	Economic Value
2015	1.62	$18.42
2016	1.45	$16.49
2017+	1.34	$15.24
Total	4.44	$50.15

Under **Alternative 3,** the recreational red snapper quota by would be increased by 1.34 mp compared to the status quo and held constant through 2017. As a result, between 2015 and 2017, annual increases in economic value estimated at $15.24 million would be expected to result from the quota increase proposed in **Alternative 3**. Between 2015 and 2017, total increases in economic value (obtained by multiplying annual increases by three) expected to result from **Alternative 3** are estimated at $45.72 million.

4.1.4 Effects on the Social Environment

The social effects of this proposed action would be expected, in general, to change in direction and magnitude with the expected change in economic effects discussed in Section 4.1.3. Direct impacts on the social environment resulting from the proposed action will relate to the change in the amount of quota available for harvest compared to the current quota. Generally, assuming the biological needs of the resource remain protected, short and long-term social benefits would be expected to increase if the quota is increased (**Preferred Alternative 2** and **Alternative 3**).

Preferred Alternative 2 and **Alternative 3** would increase the total red snapper quota from 11.0 mp to at least 13.74 mp and would be expected to meet recovery goals, satisfying the biological needs of the stock. Therefore, the proposed quotas would not be expected to jeopardize the long-term health of the resource or associated long-term stream of social or economic benefits. As a result, the proposed quota increases would be expected to allow both short and long-term increases in broad social benefits. Communities and businesses associated with the recreational sector would be expected to receive increased social benefits as a result of potentially increased recreational activity and expenditures flowing to these communities and businesses. For the commercial sector, these benefits would arise from increased availability of IFQ allocation and the resulting revenue and profits which would accrue to commercial fishing families and businesses. Allowing quota increases, when biologically appropriate, would also be expected to increase confidence in and support of the fishery management process.

Both **Preferred Alternative 2** and **Alternative 3** propose increases to the red snapper quotas compared to **Alternative 1** and would therefore result in greater social benefits compared with **Alternative 1**. **Preferred Alternative 2** proposes larger quotas than **Alternative 3** for the years 2015 and 2016; **Preferred Alternative 2** and **Alternative 3** propose the same quotas for 2017. Generally, stable quotas (such as under **Alternative 3)** are preferred by both sectors, as a consistent amount of fish may be assumed to allow other management measures to remain stable. However, the difference between the declining annual quotas for 2015-2017 (**Preferred Alternative 2**) are relatively small and not likely to substantially affect quota availability in the commercial sector or the length of the fishing season for the recreational sector. For each sector, the quota (ACL) decreases by 2.4% between 2015 and 2016, and a further 1.6% between 2016 and 2017. Thus, **Preferred Alternative 2** provides more quota for the years 2015 and 2016 than **Alternative 3**, and would thus be expected to provide some additional social benefits arising from the greater availability of commercial IFQ allocation and recreational fishing opportunities.

An additional consideration concerns Amendment 40, currently under review by NMFS, which would apportion the recreational quota increase in **Preferred Alternative 2** and **Alternative 3** between the private angling (57.7%) and federal for-hire (42.3%) components of the recreational sector. Expected benefits from increased fishing opportunities under both **Preferred Alternative 2** and **Alternative 3** would be expected in approximate proportion to the allocation. In the event Amendment 40 is not implemented, the recreational quota would not be divided.

4.1.5 Effects on the Administrative Environment

None of the alternatives should result in any significant direct or indirect effects to the administrative environment relative to the recreational sector, because the type of regulations needed to manage the red snapper component of the reef fish fishery would remain unchanged regardless of the commercial and recreational quotas. NMFS law enforcement, in cooperation with state agencies, would continue to monitor regulatory compliance with existing regulations and NMFS would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels.

The commercial sector for red snapper is managed through an IFQ program. At the beginning of each year, annual allocation is distributed to IFQ shareholders. Any time the quota is increased during the year, additional allocation must be calculated and distributed to shareholder accounts. Therefore **Preferred Alternative 2** and **Alternative 3** would impose the same burden on the administrative environment, which would be greater than **Alternative 1**.

4.2 Cumulative Effects Analysis

The cumulative effects from the red snapper rebuilding plan have been analyzed in Reef Fish Amendment 22 (GMFMC 2004a) and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007), and cumulative effects to the reef fish fishery have been analyzed in Reef Fish Amendments 32 (GMFMC 2011c) and 40 (GMFMC 2014), and the July 2013 Regulatory Amendment (GMFMC 2013b), and are incorporated here by reference. A summary of these effects is included below.

The effects of setting the quota in this action are similar to those described in the July 2013 Regulatory Amendment (GMFMC 2013b), and are most closely aligned with the effects from the revisions to the red snapper rebuilding plan in Amendment 27 to the FMP (GMFMC 2007). This analysis found the effects on the biophysical and socioeconomic environments would be positive because they would ultimately restore and maintain the stock at a level that allows the maximum benefits in yield and commercial and recreational fishing opportunities to be achieved. All of the proposed alternatives allow the red snapper stock to be rebuilt within the rebuilding plan timeframe.

This action is not likely to result in significant effects when considered in combination with other relevant past, present, and reasonably foreseeable actions because it will not substantially alter the manner in which the fishery is prosecuted. Pertinent past actions are summarized in the history of management in Section 1.3. Reasonably foreseeable future actions that the Council is considering include reallocation between the commercial and recreational sectors, sector separation of the recreational sector, and regional recreational management by the Gulf States. The cumulative impacts of these actions cannot be foreseen at this time, and will be addressed fully in the environmental analyses for these amendments.

Additional considerations for cumulative effects may include the impacts of the Deepwater Horizon MC252 oil spill and potential climate change issues. The impacts of the Deepwater Horizon MC252 oil spill may not be known for several years. If there was a reduction in spawning success in 2010 caused by oil, the impacts may begin to manifest themselves in 2013, which is when the 2010 year-class became large enough to enter the adult spawning population. Negative results could include reduced spawning potential and long-term potential yield. The 2014 update stock assessment did show decreased recruitment for the red snapper stock during the last two years despite increasing spawning stock abundance.

There may also be increased mortality of red snapper due to disease caused by interaction with oil contaminants. There have been reports of increased incidences of diseased fish by some scientists that may be related to the spill, but others have argued there is no baseline from which to judge the prevalence of disease so no correlation can be conclusively determined. Studies are continuing to investigate whether diseased fish suffer from immune system and fertility problems (Tampa Bay Times 2012). In a recent study, Weisberg et al. (2014) suggested the hydrocarbons associated with the 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. The overall impact of the oil spill may not be realized for quite some time and the studies are just now being published. The combination of increased quotas proposed in the current action, the 2014 increase in the red snapper quota, and the potential negative impacts of the oil spill (e.g., increase in natural mortality and declines in spawning potential and recruitment) could adversely impact the stock; however, the stock assessment considered these additional impacts when calculating the harvesting level.

There is a large and growing body of literature on past, present, and future impacts of global climate change induced by human activities. Some of the likely effects commonly mentioned are sea level rise, increased frequency of severe weather events, and change in air and water temperatures. The Environmental Protection Agency's climate change webpage

(http://www.epa.gov/climatechange/) provides basic background information on these and other measured or anticipated effects. The United Nations Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007) contains a compilation of scientific information on climate change and is incorporated here by reference (http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml). Global climate changes could have significant effects on Gulf fisheries; however, the extent of these effects is not known at this time. Possible impacts, outlined in the Generic ACL/AM amendment (GMFMC 2011b) and Amendment 32 to the FMP (GMFMC 2011c), 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. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, the distribution of native and exotic species may change with increased water temperature, along with 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 marine fisheries and dependent communities. Integrating the potential effects of climate change into fisheries stock assessment is currently difficult due to differences in time scales (Hollowed et al. 2013). Fisheries stock assessments rarely project across a time period that would include detectable climate change effects. While climate change may significantly impact Gulf of Mexico reef fish species in the future, the level of impacts cannot be quantified at this time, and the time frame during which these impacts would occur are unknown. Actions from this amendment are 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 for the commercial and recreational sectors, stock assessments, life history studies, economic and social analyses, and other scientific observations.

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 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 3.3.

5.4 Impacts of Management Measures

5.4.1 Action 1: Establish Red Snapper Quotas from 2015 through 2017+

A detailed analysis of the economic effects expected to result from this action is provided in Section 4.1.3. The following discussion summarizes the key points of this analysis.

For the commercial sector, **Preferred Alternative 2** and **Alternative 3** would increase the commercial quota by a total of 4.14 mp gutted weight (gw) and 3.78 mp gw, respectively. These proposed increases in the red snapper commercial quota would be expected to result in a total increase in IFQ share value for 2015-2017 ranging from approximately $151.3 million (**Alternative 3**) to approximately $165.4 million (**Preferred Alternative 2**). Annual sale (leasing) of the proposed increased quota would be expected to result in a total increase in allocation value ranging from approximately $11.4 million (**Alternative 3**) to approximately $12.4 million (**Preferred Alternative 2**) per year. **Alternative 1** would maintain the current

commercial red snapper quota and would not be expected to result changes in ex-vessel value, gross revenue, and share and allocation value. However, **Alternative 1**would be expected to result in adverse indirect economic effects due to fishing opportunities forgone by red snapper IFQ participants.

For the recreational sector, **Preferred Alternative 2** and **Alternative 3** would increase the recreational red snapper quota by a total of 4.41 mp and 4.02 mp, respectively. Between 2015 and 2017, these proposed increases in the recreational red snapper quota would be expected to result in a total increase in economic value ranging from approximately $45.72 million (**Alternative 3**) to approximately $50.15 million (**Preferred Alternative 2**). **Alternative 1** would maintain the current recreational red snapper quota and would not be expected to result changes in economic value. However, **Alternative 1**would be expected to result in adverse indirect economic effects due to forgone recreational fishing opportunities.

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……$25,000

NMFS administrative costs of document preparation, meetings and review $15,000

TOTAL ….....$40,000

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 fishing mode.

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. REGULATORY FLEXIBILITY ACT ANALYSIS

6.1 Introduction

The purpose of the Regulatory Flexibility Act Analysis (RFAA) 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 RFAA 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 an 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".

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

The problems and objective of this proposed action are provided in Chapter 1. In summary, the objective of this proposed rule is to set 2015-2017 quotas for the commercial and recreational harvest of red snapper in the Gulf of Mexico (Gulf) that are consistent with the red snapper rebuilding plan in order to achieve optimal yield. 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 rule, if implemented, would increase the red snapper quotas for the commercial and recreational sectors for 2015-2017 relative to the current quotas. As a result, this rule would be expected to directly affect commercial vessels that harvest red snapper. Over the period 2009-2013, an average of 353 vessels per year recorded commercial red snapper harvests, based on mandatory logbook data. The maximum number of vessels with recorded commercial red snapper harvests during this period was 375 in 2010. However, in 2010, 384 vessels were identified in the red snapper individual fishing quota on-line account program, which tracks red snapper activity. This system, however, is not the data of official record for trip harvests, nor does it capture all landings from all species harvested on all trips by vessels that harvest red snapper, or associated fishing revenues. Therefore, data from both sources will be used for this assessment. This rule would be expected to apply to 353-384 commercial fishing vessels. The average annual gross revenue from all species harvested on all trips by the vessels identified with recorded red snapper harvests in logbook data over the period 2009-2013 (353 vessels) was approximately $110,000 (2013 dollars).

With respect to the proposed changes in the red snapper recreational quotas, generally, only recreational anglers are allowed to recreationally harvest red snapper in federal waters in the Gulf and would be directly affected in changes in the allowable harvest. However, recreational anglers are not small entities under the Regulatory Flexibility Act (RFA). Although for-hire businesses (charter vessels and headboats) operate in the recreational sector, these businesses only sell fishing services to recreational anglers and do not, with the exception discussed in the next paragraph, have harvest rights to the red snapper recreational quota. For-hire vessels provide a platform for the opportunity to fish and not a guarantee to catch or harvest any species, though expectations of successful fishing, however defined, likely factor into the decision by anglers to purchase these services. Changing the red snapper recreational quota only defines how much red snapper can be harvested and the quota is a factor in the determination of the length of the red snapper season. Changing the quota does not explicitly prevent the continued offer or sale of for-hire fishing services. In the event of a closed season (zero bag limit), precipitated by a quota reduction, catch and release fishing for a target species can continue, as can fishing for other species. In the event of a quota increase and associated increase in the open season, the basic service offered remains the same, though the list of species that may be retained is expanded. Because the proposed change in the red snapper quota would not directly alter the basic service sold by for-hire vessels, in general, this proposed action would not directly apply to or regulate their operations. Any change in vessel business would be a result of changes in angler demand for these fishing services that occurs as a result of the behavioral decision by anglers, i.e., to fish or not. This behavioral decision would be a consequence of how anglers determine the change in allowable harvest will affect them. Therefore, any effects on the associated for-hire vessels would be one step removed from the anglers' decision and an indirect effect of the proposed action. Because the effects on for-hire vessels would be indirect, they fall outside the scope of the RFA.

The exception to this determination is, however, for the 19 headboats participating in the Gulf Headboat Collaborative Fishing Permit (Collaborative Fishing) program in 2015 (as a continuation of the two-year program begun in 2014). The Collaborative Fishing program allocates harvest rights to a specified portion (2.4396%) of the red snapper recreational allowable catch to the Collaborative, and this quantity is subsequently allocated to individual vessels. This program allows anglers to harvest red snapper when fishing on the Collaborative vessels outside the season available to non-participating vessels if the total allowable harvest for the recreational sector has not been taken. Although these red snapper can only be harvested by recreational anglers, and not by vessel captains or crew, the allocation of harvest rights to these vessels increases the flexibility to fish for and retain red snapper on the vessels in this program. These vessels, therefore, can offer an enhanced product relative to other for-hire vessels. The proposed increase in the red snapper recreational quota in 2015 would increase the amount of quota allocated to the vessels in this program. Average revenue information for these 19 vessels is unknown. However, the average headboat operating in the Gulf is estimated to receive approximately $245,000 (2013 dollars; Savolainen et al. (2012)5) in annual gross revenue.

NMFS has not identified any other small entities that would be expected to be directly affected by this proposed action.

The Small Business Administration has established size criteria for all major industry sectors in the U.S., including fish harvesters. A business involved in fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $20.5 million (North American Industry Classification System -NAICS code 114111, finfish fishing) for all its affiliated operations worldwide. The revenue threshold for a business involved in the for-hire fishing industry is $7.5 million (NAICS code 487210, fishing boat charter operation). All commercial and headboat fishing vessels expected to be directly affected by this proposed rule are believed 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

This proposed action would not establish any new reporting, record-keeping, or 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.

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 an estimated 353-384 commercial fishing vessels and 19 headboats that offer recreational fishing services.

Significant economic impacts

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

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

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

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

This proposed action would increase the red snapper commercial quota in 2015, 2016, and 2017 by 1.68 million lb (mp) gutted weight (gw), 1.51 mp gw, and 1.4 mp gw each year, respectively relative to the status quo. These increases would be expected to result in an increase in total gross revenue (ex-vessel revenue minus the 3% cost recovery fee, all vessels) for commercial vessels that harvest red snapper of approximately $6.974 million (2013 dollars), $6.268 million, and $5.811 million, each year, respectively. Across all three years, the resultant total increase in gross revenue would be approximately $19.053 million (2013 dollars). The average increase per vessel (353-384 vessels) per year would range (low to high average) from approximately $15,133-$16,462 per vessel ($5.81 million/384 vessels = $15,133 per vessel; $5.81/353 vessels = $16,462 per vessel) in 2017 to approximately $18,161-$19,756 per vessel ($6.97 million/384 vessels = $18,161 per vessel; $6.97/353 vessels = $19,756 per vessel) in 2015. As a result, the expected economic effect of the proposed action would be increased revenue to the affected small business entities.

This proposed action would increase the red snapper recreational quota in 2015, 2016, and 2017 by 1.65 mp gw, 1.45 mp gw, and 1.34 mp gw each year, respectively relative to the status quo. As discussed above, the proposed quota increase in 2015 would be expected to directly affect 19 headboats that participate in the Collaborative Fishing program. These vessels would not be expected to be directly affected by the proposed quota increases in 2016 and 2017 because the program will only continue through 2015. Quantitative estimates of the expected economic effects of the proposed quota increase in 2015 on these 19 entities are not available. Although the amount of increased quota that would be allocated to this program can be calculated, how

this increase would be distributed amongst the vessels in the program cannot be determined because the distribution is subject to decision within the program and not dependent on historical activity or distribution of allowable harvest to date this year. Additionally, it is not possible with available data to produce meaningful estimates of whether the increased quota would be harvested by anglers on new trips (that would increase the revenue to respective vessels) compared to trips that would occur in the absence of a change in available harvest (resulting in no change in revenue), or whether the change in available harvest would affect the price per trip that would be charged. Nevertheless, the effects of the increase in quota on these vessels would be expected to be either neutral at worst (i.e., no economic effect) or, more likely, positive, resulting in an increase in vessel revenue and associated profits.

In summary, this proposed action would be expected to result in an increase in revenue and associated profits to affected small business entities. As a result, this proposed action, if implemented, would not be expected to have a significant adverse economic effect on a substantial number of small entities.

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

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

CHAPTER 7. LIST OF PERSONS AND AGENCIES CONSULTED

LIST OF PREPARERS

Name	Expertise	Responsibility	Agency
Steven Atran	Fishery Biologist	Co-Team Lead – Amendment development, introduction, background	GMFMC
Cynthia Meyer	Biologist	Co-Team Lead – Amendment development, effects analysis, and cumulative effects analysis	SERO
Anik Clemens	Technical Writer Editor	Regulatory writer	SERO
David Dale	Biologist	EFH review	SERO
Assane Diagne	Economist	Economic analyses, Regulatory Impact Review	GMFMC
Nick Farmer	Biologist	Data analysis	SERO
Daniel Goethel	Biologist	Reviewer	SEFSC
Stephen Holiman	Economist	Regulatory Flexibility Act analysis,	SERO
Mike Jepson	Anthropologist	Social analyses	SERO
Ava Lasseter	Anthropologist	Social analyses	GMFMC
Jennifer Lee	Protected Resources	Protected species review	SERO
Mara Levy	Attorney	Legal compliance and review	NOAA GC
Akbar Marvasti	Economist	Reviewer	SEFSC
Noah Silverman	Natural Resource Management Specialist	NEPA compliance	SERO
Andy Strelcheck	Biologist	Data analysis	SERO

SERO = National Marine Fisheries Service Southeast Regional Office, GMFMC = Gulf of Mexico Fishery Management Council, GC = General Counsel.

LIST OF AGENCIES CONSULTED

Gulf of Mexico Fishery Management Council
National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office

NOAA General Counsel
U.S. Coast Guard
Environmental Protection Agency

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APPENDIX A. OTHER APPLICABLE LAW

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) provides the authority for management of stocks included in fishery management plans in federal waters of the exclusive economic zone. However, 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 (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the Act, 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 Act also establishes a 30-day waiting period from the time a final rule is published until it takes effect. NMFS can waive this waiting period under certain circumstances.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state's coastal zone, 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 (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget 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 FMPs and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Fishery Conservation and Management 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 an action for managed stocks 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. NMFS, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

Fish and Wildlife Coordination Act

Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661-667e) provides the basic authority for the Fish and Wildlife Service's involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It also requires Federal agencies that construct, license or permit water resource development projects to first consult with the Service (and the National Marine Fisheries Service in some instances) and State fish and wildlife agency regarding the impacts on fish and wildlife resources and measures to mitigate these impacts.

The fishery management actions in the Gulf of Mexico are not likely to affect wildlife resources pertaining to water resource development as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, (Public Law 89-665; 16 U.S.C. 470 *et seq.*) is intended to preserve historical and archaeological sites in the United States of America. Section 106 of the NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects for sites on listed on, or eligible for listing on, the National Register of Historic Places and aims to minimize damage to such places.

Typically, fishery management actions in the Gulf of Mexico are not likely to affect historic places with exception of the *U.S.S. Hatteras*, located in federal waters off Texas, which is listed in the National Register of Historic Places. The proposed actions are not likely to increase fishing activity above previous years. Thus, no additional impacts to the *U.S.S. Hatteras* would be expected.

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 fishing activities, and studies of pinniped-fishing activity interactions.

Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries that places all U.S. commercial fishing activities into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishing activity. The categorization of a fishing activity in the List of Fisheries determines whether participants in that fishing activity may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703) protects migratory birds. The responsibilities of Federal agencies to protect migratory birds are set forth in Executive Order 13186. US Fish and Wildlife Service is the lead agency for migratory birds. The birds protected under this statute are many of our most common species, as well as birds listed as threatened or endangered. A memorandum of understanding (MOU) between NMFS and U.S. Fish and Wildlife Service (FWS), as required by Executive Order 13186 (66 FR 3853, January 17, 2001), is to promote the conservation of migratory bird populations. This MOU focuses on avoiding, or where impacts cannot be avoided, minimizing to the extent practicable, adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between NMFS and FWS by identifying general responsibilities of both agencies and specific areas of cooperation. Given NMFS' focus on marine resources and ecosystems, this MOU places an emphasis on seabirds, but does not exclude other taxonomic groups of migratory birds.

Typically, fishery management actions in the Gulf of Mexico are not likely to affect migratory birds. The proposed actions are not likely to change the way in which the fishery is prosecuted. Thus, no additional impacts are reasonably expected.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure the public is not overburdened with information requests, the federal government's information collection procedures are efficient, and federal agencies adhere to appropriate rules governing the confidentiality of such information. The Act requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishing activity information from the public. None of the alternatives in this amendment are expected to create additional paperwork burdens.

Prime Farmlands Protection and Policy Act

The Farmland Protection and Policy Act of 1981 (7 U.S.C. 4201) was enacted to minimize the loss of prime farmland and unique farmlands as a result of Federal actions by converting these lands to nonagricultural uses. It assures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

The fishery management actions in the Gulf of Mexico are not likely to affect farmlands as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

National Wild and Scenic Rivers System

The National Wild and Scenic Rivers System of 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and

development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

The fishery management actions in the Gulf of Mexico are not likely to affect wetland habitats as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

North American Wetlands Conservation Act

The North American Wetlands Conservation Act of 1989 (Public Law 101-233) established a wetlands habitat program, administered by the United States Fish and Wildlife Service, to protect and manage wetland habitats for migratory birds and other wetland wildlife in the United States, Mexico, and Canada.

The fishery management actions in the Gulf of Mexico are not likely to affect wetland habitats as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

Executive Orders (E.O.)

E.O. 12630: Takings

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

E.O. 12866: Regulatory Planning and Review

E.O. 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 regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations 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: 1) Has an annual effect on the economy of $100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments and communities; 2) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; 3) materially alters the budgetary

impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

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

This E.O 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.

E.O. 12962: Recreational Fisheries

This E.O. 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 (NRFCC) 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 NRFCC 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. 13089: Coral Reef Protection

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

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for Essential Fish Habitat (GMFMC 2005), which established additional habitat

areas of particular concern (HAPCs) and gear restrictions to protect corals throughout the Gulf of Mexico. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The E.O. 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).

In Amendment 30B, no Federalism issues were identified relative to the action to establish the 30B permit provision. Therefore, consultation with state officials under Executive Order 12612 was not necessary. In Council discussions regarding this framework action, the question of whether the 30B permit provision conflicts with state regulations has been discussed (see Section 1.1), but no determination was made that this constitutes a Federalism issue. Consequently, consultation with state officials under Executive Order 12612 remains unnecessary.

E.O. 13158: Marine Protected Areas

This E.O. requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area. There are several marine protected areas, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf. The existing areas are entirely within federal waters of the Gulf of Mexico. They do not affect any areas reserved by federal, state, territorial, tribal or local jurisdictions.

Essential Fish Habitat

The amended Magnuson-Stevens Fishery Conservation and Management Act included a new habitat conservation provision that requires each existing and any new FMPs to describe and identify essential fish habitat (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 2004b) to address the new EFH requirements contained within the Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH.

These actions are not expected to change the way in which the fisheries are conducted in regard to the impact of the fisheries on the environment. The actions, considered in the context of the fisheries as a whole, will not have an adverse impact on EFH; therefore, an EFH consultation is not required.

FINDING OF NO SIGNIFICANT IMPACT FOR A FRAMEWORK ACTION TO SET THE RED SNAPPER QUOTAS FOR 2015-2017+

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

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

Response: No, the proposed action would not jeopardize the sustainability of the target species. Results from the recent red snapper stock assessment updates in 2013 and 2014 indicate the red snapper stock is no longer undergoing overfishing and that the quotas can be increased. Management measures considered in this regulatory amendment would adjust the red snapper acceptable biological catch from 11 million pounds (mp) whole weight (ww) to 14.30 mp ww (2015), 13.96 mp ww (2016), and 13.74 mp ww (2017 and subsequent years), consistent with the choice of the Gulf of Mexico Fishery Management Council and the most recent recommendations of their Scientific and Statistical Committee. (Chapter 2).

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

Response: No, the proposed action is not expected to jeopardize the sustainability of any non-target species, and is not expected to substantially alter standard fishing practices during the 2015 or subsequent fishing seasons. The effects on non-targeted species are discussed in Section 4.1.2 and are expected to be minimal. Although the proposed action may increase the fishing effort, any impacts to non-target species would be minimal given the overall effort in the reef fish fishery. As elaborated in Criterion 5, the proposed action is not expected to adversely affect endangered or threatened species.

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

Response: No, the proposed action is not reasonably expected to cause substantial damage to the ocean and coastal habitats and/or EFH in the U.S. waters of the Gulf of Mexico. The increase in allowable harvest may increase fishing effort to some degree; however, few additional impacts on EFH or other habitats would be expected relative to recent years because the number of fishing days would be about the same total days as last year. Even if the quota increase adds a

few days to the red snapper recreational fishing season, this increase would be minimal when considered in the context of the reef fish fishery as a whole (Section 4.1.1).

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

Response: No, the proposed action is not reasonably expected to have a substantial adverse impact on public safety or health. This action increases the total allowable harvest of red snapper from 11 mp ww to 14.30 mp ww (2015), 13.96 mp ww (2016), and 13.74 mp ww (2017 and subsequent years) but is not expected to substantially alter the manner in which the commercial or recreational sectors in the Gulf of Mexico are prosecuted (Section 4.1).

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

Response: No, the proposed action is not expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species as the proposed action is not expected to substantially alter the manner in which the fishery is conducted in the Gulf of Mexico. Endangered Species Act consultations on the Gulf of Mexico reef fish fishery have determined the fishery is not likely to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of National Marine Fisheries Service or result in the destruction or adverse modification of critical habitat (Appendix A). In addition, the primary gears used in the Gulf of Mexico reef fish fishery are classified in the final 2015 Marine Mammal Protection Act List of Fisheries as Category III fishery (79 FR 77919). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from the fishery is less than or equal to one percent of the potential biological removal (Appendix A).

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

Response: No, the proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area. The proposed action to increase the allowable harvest of red snapper is not expected to substantially alter the manner in which the fishery is conducted in the Gulf of Mexico. The direct and indirect effects on the physical and biological environments are described in Sections 4.1.1 and 4.1.2 of the Environmental Assessment (EA).

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

Response: No, the proposed action would not result in any significant social or economic impacts interrelated with natural or physical environmental effects. Allowing increased harvest of red snapper by both the commercial and recreational fishing sectors may have direct and indirect social and economic effects to those who participate in the respective sectors and to the shoreside operations that support them. However, these impacts are not expected to be significant when considered in the context of the reef fish fishery as a whole. The direct and indirect effects on the social and economic environments are described in Sections 4.1 and 4.2 of the EA.

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

Response: No, the effects on the quality of the human environment are not likely to be highly controversial. Adjustments to catch levels have been implemented before by the Council and minor impacts associated with this type of management changes are well understood. Fishery industry participants often questions the validity of the science involved in the estimates of annual harvest and the status of the various targeted fish stocks, making for perceived controversy, but National Standard 2 of the Magnuson-Stevens Act requires conservation and management measures be based upon the best scientific information available. The analyses and data used in the decision-making process were based on standard techniques used to evaluate fish stocks and fisheries (see Chapter 1). The proposed action was certified by the Southeast Fisheries Science Center as based on the best available scientific information and made this determination through scientific review (Chapter 1). The relaxation of harvesting restrictions is expected to be perceived in a positive manner by the fishing community (Section 4.1.4). While it is possible that some conservation groups may not endorse additional fishing pressure on the reef fish resource, the increase in the quotas and associated fishing effort would not be significant and would only add a few days to the recreational season.

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

Response: No, the proposed action is not reasonably expected to result in substantial impacts to unique areas, park land, prime farmlands, wetlands, wild and scenic rivers, EFH, or ecologically critical areas. The proposed action should not result in substantial impacts on EFH, as discussed in section 4.1. Park land, prime farmlands, wetlands, wild and scenic rivers are inland and are not affected by this action in federal waters of the Gulf of Mexico (Appendix A).

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

Response: No, the effects on the human environment are not likely to be highly uncertain or involve unique or unknown risks. This action proposes to adjust the total allowable catch of red snapper, in accordance with approved procedures outlined in the Council's FMP for the Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP). Adjustments to total allowable catch are made regularly in many fisheries, based on updated information regarding the status of a specific stock or stocks.

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

Response: No, the proposed action is not related to other actions with individually insignificant but cumulatively significant impacts. Allowable harvest of red snapper or any managed species, tend to fluctuate over time in relation to stock status. The proposed action to increase the allowable harvest of red snapper is not expected to substantially alter the manner in which the fishery is conducted. Therefore, cumulative effects are not expected to occur from combining this action with other past, present, and reasonably foreseeable future actions as further analyzed in section 4.2 of the EA.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?
Response: No, the proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor is it expected to cause loss or destruction of significant scientific, cultural, or historical resources. Fishing activity already occurs in the vicinity of the *U.S.S. Hatteras* and other shipwrecks located in federal waters of the Gulf of Mexico, which are listed in the National Register of Historic Places; but the proposed action is not expected to increase the total fishing activity under the FMP that regularly occurs in these areas.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?
Response: No, the proposed action is not reasonably expected to result in the introduction or spread of a non-indigenous species. The proposed action to increase the allowable harvest of the regional red snapper stock is not expected to substantially alter the manner in which the red snapper portion of the reef fish fishery is conducted. Red snapper are native to the Gulf of Mexico (see Section 3.2) and the fishery is prosecuted within the boundaries of the Gulf of Mexico, reducing the likelihood of introducing non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?
Response: No, the proposed action does not establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. The proposed action, conducted in accordance with regulations established under the Reef Fish FMP, as amended to date, in no way constitutes a decision in principle about a future consideration. FMPs and their implementing regulations are always subject to future changes. The Council and NMFS have discretion to amend the Reef Fish FMP and accompanying regulations and may do so at any time, subject to the Administrative Procedures Act, National Environmental Policy Act, and other applicable laws.

15) Can the proposed action reasonably be expected to threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment?
Response: No, the proposed action is being taken pursuant to federal legal mandates for the management of fishery resources. It is not reasonably expected to threaten a violation of federal, state, local law, or requirements imposed for the protection of the environment (Section 1.3).

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

the increased ability to harvest red snapper, and any increase in bycatch of non-target species is expected to be minimal. The cumulative effects are further discussed in section 4.2 of the EA.

DETERMINATION:

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

4/20/15

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

Date