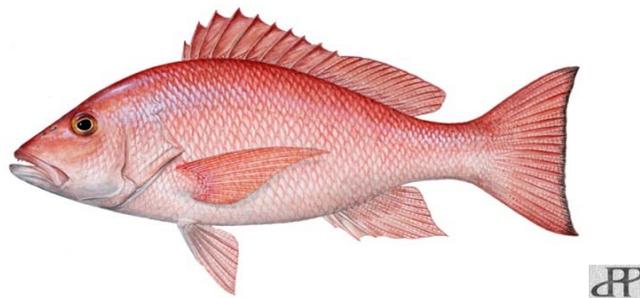


# Red Snapper Commercial Quota Retention for 2016



**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**

**August 2015**



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# COVER SHEET

## Withhold a Portion of the Commercial Red Snapper Quota for 2016

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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### Type of Action

Administrative       Legislative

Draft                       Final

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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
EA	Environmental Assessment
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
RS-IFQ	red snapper individual fishing quota program
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 Gulf of Mexico Fishery Management Council (Council) is considering modifying the commercial and recreational sector allocations for red snapper in Amendment 28 to the Fishery Management Plan (FMP) for Reef Fish Fishery of the Gulf of Mexico (Amendment 28) (GMFMC 2015). The timeline for Amendment 28 would not allow NMFS to implement the proposed redistribution of red snapper commercial quota until after January 1, 2016. The Council is expected to take final action on Amendment 28 in the fall of 2015 and in anticipation of that decision the Council has decided to set aside a portion of the red snapper commercial annual catch limit (ACL) (commercial quota) for the 2016 fishing year based on the shift in allocation that is selected in Amendment 28. If Amendment 28 is not approved at the August Council Meeting this action will not be necessary.

Amendment 28 and its Environmental Impact Statement analyzed the impacts of a reasonable range of alternatives that would change the current commercial and recreational red snapper allocation of 51:49 percent, respectively. The purpose of Amendment 28 is to reallocate the red snapper harvest consistent with the 2015 red snapper assessment update to ensure the allowable catch and recovery benefits are fairly and equitably allocated between the commercial and recreational sectors to achieve optimum yield. The current Preferred Alternative 8 would result in a 48.5 percent commercial and 51.5 percent recreational allocation.

## 1.2 Purpose and Need

The purpose of this action is to withhold a percentage of the 2016 commercial ACL of red snapper equivalent to the portion of the total ACL proposed for redistribution from the commercial sector to the recreational sector in Amendment 28.

The need for this action is to allow NMFS to implement a decrease in the red snapper commercial quota for the 2016 fishing year, by only distributing to shareholders the exact portion of the 2016 red snapper commercial quota the Council selects as preferred in Amendment 28. NMFS distributes the red snapper commercial quota around January 1 annually for that fishing year. This action would further the Council's mandate 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

The final rule for the Reef Fish FMP (with its associated environmental impact statement [EIS]) (GMFMC 1981) was effective November 8, 1984, and defined the Reef Fish fishery management unit to include red snapper and other important reef fish. A complete history of management for the FMP is available on the Council's website:

[http://www.gulfcouncil.org/fishery\\_management\\_plans/reef\\_fish\\_management.php](http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management.php) and a history of red snapper management through 2006 is presented in Hood et al. (2007). A detailed history of the commercial red snapper IFQ program and a discussion of the program performance during the first years of the program are provided in Agar and al. (2014).

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

*Red snapper allocation and quotas/annual catch limits (ACLs):* The final rule for Amendment 1 (GMFMC 1989) to the Reef Fish FMP (with its associated environmental assessment (EA)), regulatory impact review (RIR) was effective in February 1990. The amendment specified a framework procedure for setting the total allowable catch (TAC) to allow for annual management changes. A part of that specification was to establish a species' allocation. These were based on the percentage of total landings during the base period of 1979-1987. For red snapper, the commercial sector landed 51% and the recreational sector landed 49% over the base period, hence the current 51% commercial:49%: recreational allocation. Amendment 1 also established a commercial quota allowing the Regional Administrator to close commercial red snapper fishing when the quota was caught. The recreational quota was established through a 1997 regulatory amendment (with its associated EA and RIR) (GMFMC 1995) with a final rule effective in October 1997. Prior to 1997, the recreational sector had exceeded its allocation of the red snapper TAC, though the overages were declining through more restrictive recreational management measures. With the establishment of a recreational quota, the Regional Administrator was authorized to close the recreational season when the quota is reached as required by the Magnuson-Stevens Act. Since 2010, actions to change the red snapper catch levels have been implemented through framework actions which have set TAC or quotas that are functionally equivalent to ACLs. Section 407(d) of the Magnuson-Stevens Act requires recreational and commercial quotas for red snapper in the Gulf of Mexico. The situation of not having an actual ACL, but rather functional equivalents, has resulted in awkward wording when discussing and implementing red snapper catch levels. More importantly, accountability measures are triggered by ACLs being exceeded. Amendment 40 (with an EIS, RIR, and RFA), which established two components to the recreational sector, also established that the quota for the commercial and recreational sectors are the ACLs for the respective sectors, and that the sum of the quotas is the stock-ACL (GMFMC 2015).

*Red snapper IFQ program (RS-IFQ):* Amendment 26 (with a supplemental environmental impact statement, RIR, and IRFA), effective on January 1, 2007, established an IFQ program for the commercial red snapper fishery (GMFMC 2006). The RS-IFQ program is a single-species, single-share category program where participants use an online account for all transactions (share and allocation transfers, landings, and cost recovery fees). For the first five years of the program (2007-2011), anyone who possessed a valid Gulf reef fish dealer permit or Gulf commercial reef fish permit was eligible to participate in the program. Beginning January 1, 2012, all U.S. citizens and permanent resident aliens were eligible to obtain a RS-IFQ

account to purchase red snapper shares and allocation. Only accounts with allocation and a valid Gulf commercial reef fish vessel permit can legally harvest red snapper. Allocation is distributed from shares on January first of each year and the allocation expires at the end of the year.

## CHAPTER 2. MANAGEMENT ALTERNATIVES

### 2.1 Action 1 - Retain a Portion of the Commercial Red Snapper Quota for 2016

**Alternative 1:** No Action - Distribute 100% of the 2016 red snapper commercial quota to red snapper Individual Fishing Quota (RS-IFQ) account shareholders on January 1, 2016.

**Alternative 2:** Before the distribution of the 2016 red snapper commercial quota to RS-IFQ account shareholders, **withhold up to 34.7 % of the red snapper commercial quota**. The exact amount to be retained for later distribution will be determined by the percentage of the red snapper commercial quota that would be reallocated to the recreational sector under Reef Fish Amendment 28.

**Discussion:**

The Council is currently evaluating the allocation of the red snapper quota between the recreational and commercial sectors and is considering reallocation alternatives in Amendment 28 to the Reef Fish Fishery Management Plan (Reef Fish Amendment 28 – Red Snapper Allocation). For 2016, recreational and commercial quotas that would result from the reallocation alternatives in Amendment 28 are provided in Table 2.1.

**Table 2.1.** 2016 commercial and recreational red snapper quotas for the reallocation alternatives under consideration in Reef Fish Amendment 28. Quotas are expressed in million pounds whole weight (mp ww); Percentages are in percent of the total red snapper quota.

Alternatives in Amendment 28	2016 Red Snapper Quota				
	Total	Commercial		Recreational	
		Pounds	Percent	Pounds	Percent
Alternative 1 No Action	13.96	7.12	51.0%	6.84	49.0%
Alternative 2	13.96	6.701	48.0%	7.259	52.0%
Alternative 3	13.96	6.422	46.0%	7.538	54.0%
Alternative 4	13.96	5.724	41.0%	8.236	59.0%
Alternative 5	13.96	5.861	42.0%	8.099	58.0%
Alternative 6	13.96	4.651	33.3%	9.309	66.7%
Alternative 7	13.96	6.090	43.6%	7.87	56.4%
<b>Preferred Alternative 8</b>	13.96	6.768	48.5%	7.192	51.5%
Alternative 9	13.96	5.933	42.5%	8.027	57.5%

Source: Reef Fish Amendment 28

The Council has indicated that it will consider taking final action and submitting Reef Fish Amendment 28 to the Secretary of Commerce for approval and implementation during its August 2015 meeting in New Orleans, LA. Based on expected timelines for review and implementation, Reef Fish Amendment 28, if approved by the Secretary, is expected to be implemented after January 1, 2016. The commercial red snapper fishery is managed under an individual fishing program (IFQ) which distributes annual allocation to shareholders on January 1 of each year. Therefore, quota reallocations that would decrease the commercial red snapper quota (and increase the recreational quota by the same amount) would either have to be implemented before the first of the year or be delayed by a year. By withholding a portion of the commercial quota during the distribution of annual allocations to RS-IFQ shareholders, this framework action would allow adjustments (reductions) to the 2016 commercial quota after the first of the year, in accordance with the expected timeline for the implementation of Amendment 28. Based on the purpose and need for this action, the Council faces a clearly defined dichotomous choice set, i.e., the Council could either retain a portion of the 2016 commercial red snapper quota necessary to facilitate the implementation of Amendment 28 in 2016 or distribute the totality of the 2016 red snapper commercial quota to RS-IFQ account shareholders. Therefore, this framework action only includes two management alternatives.

**Alternative 1** would take no action. No portion of the 2016 commercial red snapper quota would be retained. Therefore, **Alternative 1** would not allow decreases in the red snapper commercial quota after the January 1, 2016 distribution of annual allocations to RS-IFQ shareholders. Under **Alternative 1**, the Council would not be able to decrease the commercial red snapper allocation in 2016 and would delay reallocation until 2017.

**Alternative 2** would allow the Council to implement a decrease in the commercial red snapper quota after January 1, 2016, by only distributing the exact portion of the 2016 commercial red snapper quota selected as preferred in Amendment 28, to shareholders. **Alternative 2** proposes to retain a portion of the 2016 commercial red snapper quota to accommodate any decrease in the 2016 commercial quota that would result from the implementation of Amendment 28. Commercial red snapper quotas for 2016 expected to result from reallocation alternatives considered in Amendment 28 and differences between the quotas and the status quo commercial quota, i.e., without reallocation, are provided in Table 2.2.

Although the Council's current preferred alternative in Amendment 28 (Preferred Alternative 8) would decrease the 2016 commercial red snapper quota by 0.352 mp or 4.9% of the 2016 commercial quota under status quo (no reallocation), Alternative 6 in Amendment 28 could potentially decrease the 2016 red snapper commercial quota by as much as 2.469 mp (or 34.7% of the status quo commercial quota). To maintain the Council's ability to select any one of the reallocation alternatives considered in Amendment 28, **Alternative 2** in this framework action proposes to retain up to the maximum amount of red snapper that could potentially be reallocated from the commercial to the recreational sector. The exact amount of red snapper to be withheld from distribution to RS-IFQ shareholders will be known as soon as the Council takes final action on Amendment 28. The amount withheld would be added to the 2016 recreational red snapper quota once the Secretary approves Amendment 28 for implementation. The amount of red snapper withheld would be distributed to RS-IFQ shareholders if the Secretary disapproves Amendment 28.

**Table 2.2** 2016 Commercial red snapper quotas and differences between the status quo and the commercial quotas for reallocation alternatives under consideration in Reef Fish Amendment 28. Quotas are expressed in million pounds whole weight (mp ww); Differences are expressed in mp ww and in percent of the status quo (no action) quota.

Alternative in Amendment 28	Commercial Quota in 2016	Difference	
		Pounds	Percent
<b>Alternative 1 No Action</b>	<b>7.120</b>	----	----
Alternative 2	6.701	0.419	5.9%
Alternative 3	6.422	0.698	9.8%
Alternative 4	5.724	1.396	19.6%
Alternative 5	5.861	1.259	17.7%
Alternative 6	4.651	2.469	34.7%
Alternative 7	6.090	1.030	14.5%
Preferred Alternative 8	6.768	0.352	4.9%
Alternative 9	5.933	1.187	16.7%

Source: Data from Amendment 28

## 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 (Generic EFH) Amendment (GMFMC 2004b), February 2010 Regulatory Amendment (GMFMC 2010), January 2011 Regulatory Amendment (GMFMC 2011a), Generic Annual Catch Limit/Accountability Measures (Generic ACL/AM) 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, refer to [http://sero.nmfs.noaa.gov/deepwater\\_horizon\\_oil\\_spill.htm](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<sup>2</sup>), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.1.1). Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54° F to 84° F (12° C to 29° C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73 ° F through 83° F (23-28° C) including bays and bayous (Figure 3.2.1) between 1982 and 2009, according to satellite-derived measurements.<sup>1</sup> In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

The physical environment for reef fish, including red snapper, is also detailed in the environmental impact statement (EIS) for the Generic EFH Amendment and the Generic ACL/AM Amendment (refer to GMFMC 2004a; GMFMC 2011a). In general, reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. A planktonic larval stage lives in the water column and feeds on zooplankton and phytoplankton (GMFMC 2004a). Juvenile and adult reef fish are typically demersal and usually associated with bottom topographies on the continental shelf (<100m) which have high relief, i.e., coral reefs, artificial reefs, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings. However, several species are found over sand and soft-bottom substrates. For example, juvenile red snapper are common on mud bottoms in the northern Gulf, particularly off Texas through Alabama. Also, some juvenile snapper (e.g. mutton, gray, red, dog, lane, and yellowtail snappers) and grouper (e.g. Goliath grouper, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems (Appendix B).

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions, coral reefs, rock outcroppings, gravel bottoms, oilrigs, and other artificial structures (GMFMC 2004a); eggs and larvae are pelagic; and juveniles are found associated with bottom inter-shelf habitat (Szedlmayer and Conti 1998) and prefer shell habitat over sand (Szedlmayer and Howe 1997).

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<sup>1</sup> NODC 2012: <http://accession.nodc.noaa.gov/0072888>

Adult red snapper are closely associated with artificial structures in the northern Gulf (Szedlmayer and Shipp 1994; Shipp and Bortone 2009) and larger individuals have been found to use artificial habitats, but move further from the structure as they increase in size and based on the time of day (Topping and Szedlmayer 2011).

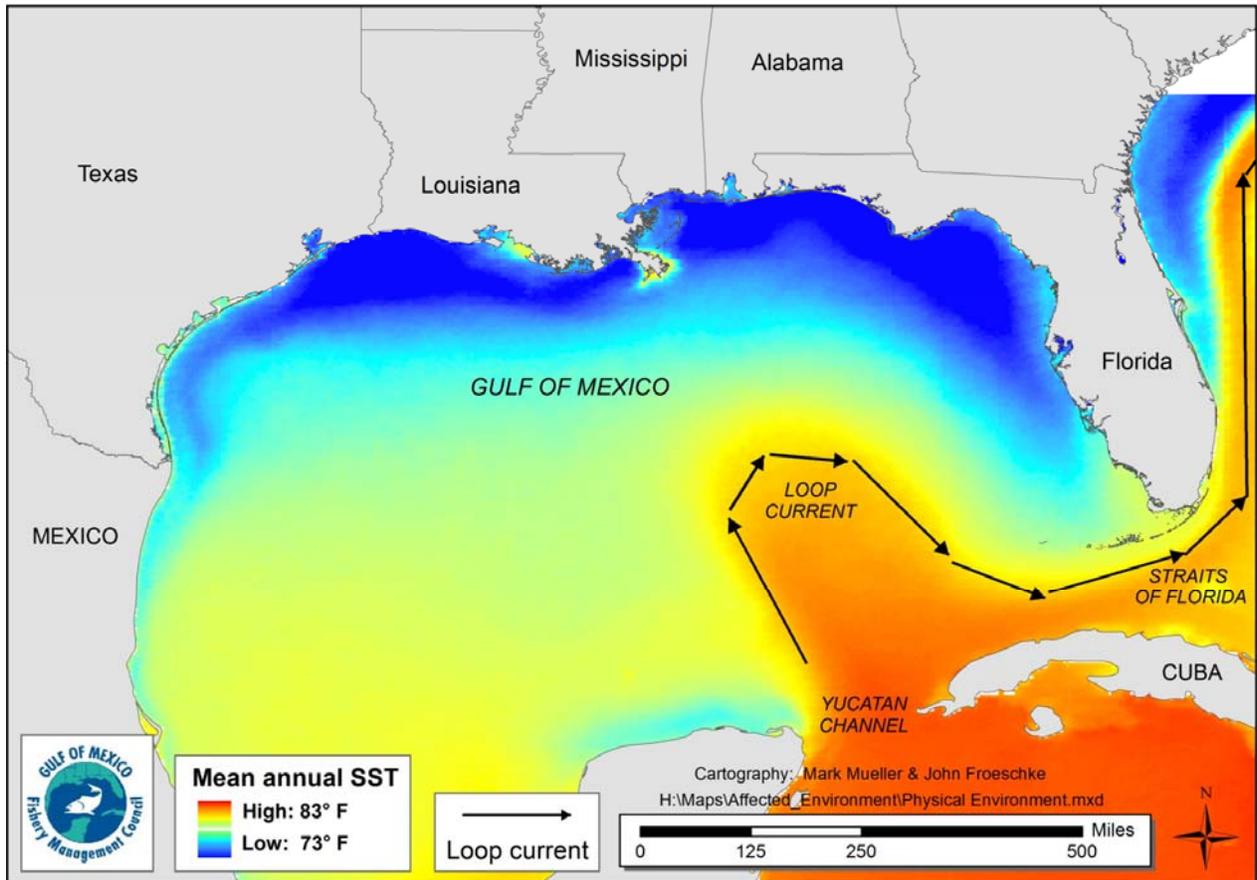


Figure 3.1.1. Physical environment of the Gulf including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (<http://accession.nodc.noaa.gov/0072888>)

**Habitat Areas of Particular Concern (HAPC)**

Generic Amendment 3 (GMFMC 2005) addressed EFH, HAPC, and adverse effects of fishing in the following fishery management plans of the Gulf Reef Fish Resources, Red Drum, and Coastal Migratory Pelagics is hereby incorporated by reference.

**Environmental Sites of Special Interest Relevant to Reef Fish, Red Drum, Coastal Migratory Pelagics, Spiny Lobster, Red Drum, and Coral and Coral Reefs (Figure 3.1.2)**

Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010) and is incorporated here by reference.

Longline/Buoy Gear Area Closure – Permanent closure to use of these gears for reef fish harvest inshore of 20 fathoms (36.6 meters) off the Florida shelf and inshore of 50 fathoms (91.4 meters) for the remainder of the Gulf, and encompasses 72,300 square nautical miles (nm<sup>2</sup>) or 133,344 km<sup>2</sup> (GMFMC 1989). Bottom longline gear is prohibited inshore of 35 fathoms (54.3 meters)

during the months of June through August in the eastern Gulf (GMFMC 2009), but is not depicted in Figure 3.2.1.

Madison-Swanson and Steamboat Lumps Marine Reserves - No-take marine reserves (total area is 219 nm<sup>2</sup> or 405 km<sup>2</sup>) sited based on gag spawning aggregation areas where all fishing is prohibited except surface trolling from May through October (GMFMC 1999; 2003). Madison-Swanson and Steamboat Lumps marine reserves which are closed to bottom fishing, the Edges Marine Reserve where all fishing is prohibited from January through April,

The Edges Marine Reserve – All fishing is prohibited in this area (390 nm<sup>2</sup> or 1,338 km<sup>2</sup>) from January through April and possession of any fish species is prohibited, except for such possession aboard a vessel in transit with fishing gear stowed as specified. The provisions of this do not apply to highly migratory species (GMFMC 2008).

Tortugas North and South Marine Reserves – No-take marine reserves (185 nm<sup>2</sup>) cooperatively implemented by the state of Florida, National Ocean Service, the Gulf of Mexico Fishery Management Council (Council), and the National Park Service in Generic Amendment 2 Establishing the Tortugas Marine Reserves (GMFMC 2001).

Reef and bank areas designated as HAPCs in the northwestern Gulf include – East and West Flower Garden Banks, Stetson Bank, Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank, Geyer Bank, McGrail Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank – pristine coral areas protected by preventing the use of some fishing gear that interacts with the bottom and prohibited use of anchors (totaling 263.2 nm<sup>2</sup> or 487.4 km<sup>2</sup>). Subsequently, three of these areas were established as marine sanctuaries (i.e., East and West Flower Garden Banks and Stetson Bank). Bottom anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots on coral reefs are prohibited in the East and West Flower Garden Banks, McGrail Bank, and on significant coral resources on Stetson Bank (GMFMC 2005).

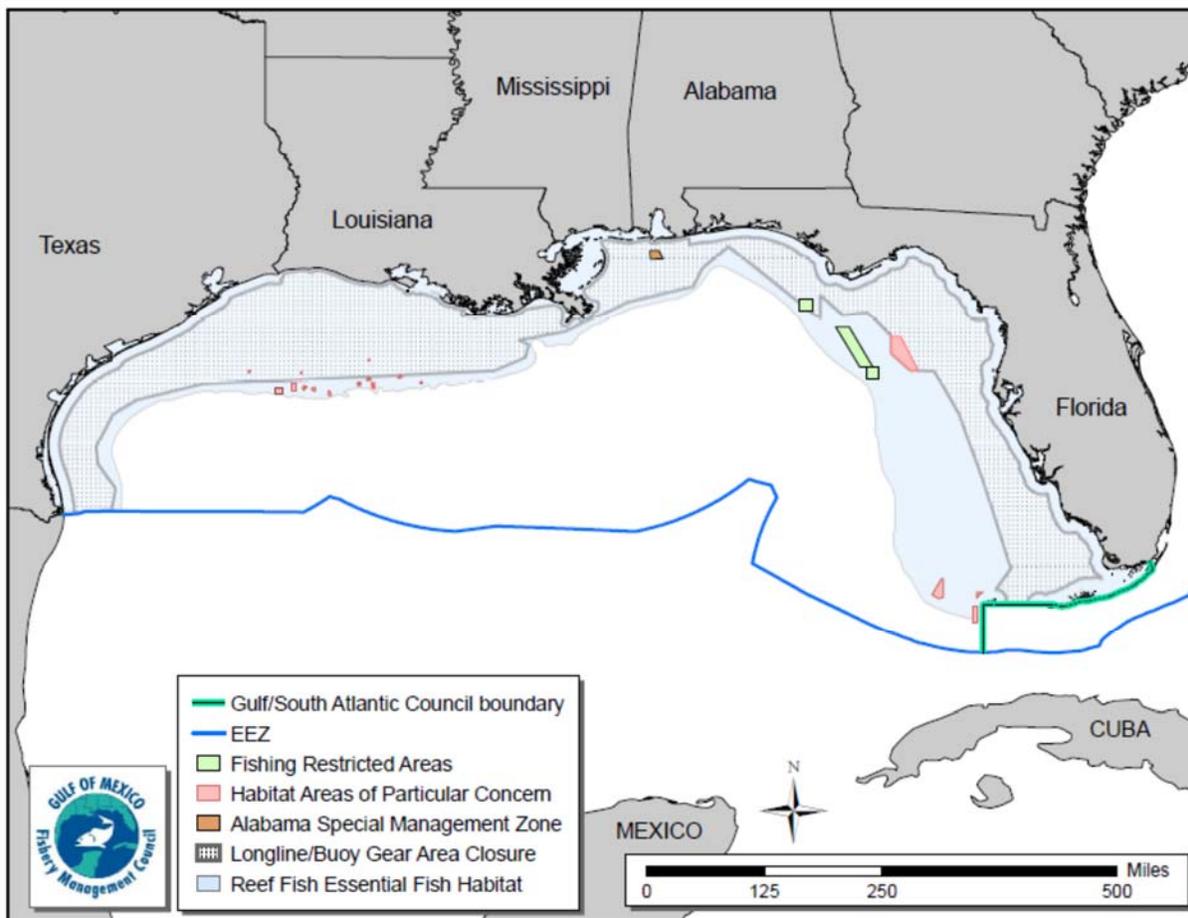
Florida Middle Grounds HAPC - Pristine soft coral area (348 nm<sup>2</sup> or 644.5 km<sup>2</sup>) that is protected by prohibiting the following gear types: bottom longlines, trawls, dredges, pots and traps (GMFMC and SAFMC 1982).

Pulley Ridge HAPC - A portion of the HAPC (2,300 nm<sup>2</sup> or 4,259 km<sup>2</sup>) where deepwater hermatypic coral reefs are found is closed to anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots (GMFMC 2005).

Alabama Special Management Zone – For vessels operating as a charter vessel or headboat, a vessel that does not have a commercial permit for Gulf reef fish, or a vessel with such a permit fishing for Gulf reef fish, fishing is limited to hook-and-line gear with no more than three hooks. Nonconforming gear is restricted to recreational bag limits, or for reef fish without a bag limit, to 5% by weight of all fish aboard.

In addition to the above, there is one site in the Gulf listed in the National Register of Historic Places. This is the wreck of the *U.S.S. Hatteras*, located in federal waters off Texas. Historical research indicates that over 2,000 ships have sunk on the Federal Outer Continental Shelf between 1625 and 1951; thousands more have sunk closer to shore in state waters during the same period. Only a handful of these have been scientifically excavated by archaeologists for the benefit of generations to come. Further information can be found at:

<http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx>



**Figure 3.1.2.** Map of most fishery management closed areas in the Gulf.

### Deepwater Horizon MC252 Oil Spill

The Deepwater Horizon MC252 oil spill in 2010 affected at least one-third of the Gulf area from western Louisiana east to the Florida Panhandle and south to the Campeche Bank in Mexico. The impacts of the Deepwater Horizon MC252 oil spill on the physical environment are expected to be significant and may be long-term. Oil was dispersed on the surface, and because of the heavy use of dispersants (both at the surface and at the wellhead), oil was also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf as were non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are persistent in the environment and can be transported hundreds of miles.

Changes have occurred in the amount and distribution of fishing effort in the Gulf in response to the oil spill. This has made the analysis of the number of days needed for the recreational sector to fill its quota more complex and uncertain, and will make the requirement to allow the recreational sector to harvest its quota of red snapper while not exceeding the quota particularly challenging. Nevertheless, substantial portions of the red snapper population are found in the northwestern and western Gulf (western Louisiana and Texas) and an increasing population of red snapper is developing off the west Florida continental shelf. Thus, spawning by this segment of the stock may not be impacted, which would mitigate the overall impact of a failed spawn by that portion of the stock located in oil-affected areas. An increase in lesions were found in red

snapper in the area affected by the oil, but Murowski et al. (2014) found that the incidence of lesions had declined between 2011 and 2012. The 2013 stock assessment for red snapper (SEDAR 31, 2013) showed a steep decline in the 2010 recruitment; however, the recruitment increased in 2011 and 2012.

As a result of the Deepwater Horizon MC252 spill, a consultation pursuant to ESA Section 7(a)(2) was reinitiated. As discussed in Chapter 4.2, on September 30, 2011, the Protected Resources Division released a biological opinion, which after analyzing best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC252 oil release event in the northern Gulf), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf reef fish fishery is not likely to jeopardize the continued existence of green, hawksbill, Kemp's ridley, leatherback, or loggerhead sea turtles, nor the continued existence of smalltooth sawfish (NMFS 2011a). For additional information on the Deepwater Horizon MC252 oil spill and associated closures, see: [http://sero.nmfs.noaa.gov/deepwater\\_horizon\\_oil\\_spill.htm](http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm).

## 3.2 Description of the Biological Environment

The biological environment of the Gulf, including the species addressed in this amendment, is described in detail in the final EISs for Generic EFH Amendment, the Generic ACL/AM Amendment, and Reef Fish Amendment 40 (refer to GMFMC 2004a; GMFMC 2011a; GMFMC 2014a) and is incorporated here by reference and further summarized below.

### **Red Snapper Life History and Biology**

Red snapper demonstrate the typical reef fish life history pattern as described in Appendix B of Amendment 28 (GMFMC 2015). Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom (See Section 3.1). Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Most females are mature by age two and almost all are mature by age five (Woods et al. 2003). Red snapper have been aged up to 57 years (Wilson and Nieland 2001). In the late 1990s, most caught by the directed fishery were 2- to 4-years old (Wilson and Nieland 2001), but a recently completed stock assessment suggests that the age and size of red snapper in the directed fishery has increased in recent years (SEDAR 31 2013). A more complete description of red snapper life history can be found in the EIS for the Generic EFH Amendment (GMFMC 2004a) and SEDAR 31 (2013).

### **Status of the Red Snapper Stock**

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<sup>2</sup>. This update assessment was based on the SEDAR 31 benchmark in 2012 and 2013 (SEDAR 31 2013). 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 and acceptable biological catch for the years 2015-2017. Chapter 3.3 of Amendment 28 (GMFMC 2015) provides a detailed description of the red snapper stock status, and is hereby incorporated by reference.

### **Status of Reef Fish Stocks**

The Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP) currently encompasses 31 species (Table 3.2.2). Eleven other species were removed from the Reef Fish FMP in 2012 by the Council in their Generic ACL/AM Amendment. Stock assessments and stock assessment reviews may be found on the Council ([www.gulfcouncil.org](http://www.gulfcouncil.org)) and SEDAR (<http://www.sefsc.noaa.gov/sedar>) websites and have been conducted for 13 species:

- red snapper (SEDAR 7 2005; SEDAR 7 Update 2009; SEDAR 31 2013; Update 2014)
- vermilion snapper (Porch and Cass-Calay 2001; SEDAR 9 2006a; SEDAR 9 Update 2011b; SEDAR Update 2014)
- yellowtail snapper (Muller et al. 2003; SEDAR 3 2003; SEDAR 27A 2012)
- mutton snapper (SEDAR 15A 2008; SEDAR 15A Update 2014)
- gray triggerfish (Valle et al. 2001; SEDAR 9 2006b; SEDAR 9 Update 2011c and 2014)
- greater amberjack (Turner et al. 2000; SEDAR 9 2006c; SEDAR 9 Update 2010, SEDAR 33 2014)
- hogfish (Ault et al. 2003; SEDAR 6 2004a, SEDAR 37 2014)

- red grouper (NMFS 2002; SEDAR 12 2007; SEDAR 12 Update 2009)
- gag grouper (Turner et al. 2001; SEDAR 10 2006; SEDAR 10 Update 2009, SEDAR 33 2014)
- black grouper (SEDAR 19 2010)
- yellowedge grouper (Cass-Calay and Bahnick 2002; SEDAR 22 2011a)
- tilefish (golden) (SEDAR 22 2011b)
- goliath grouper (Porch et al. 2003; SEDAR 6 2004b; SEDAR 23 2011)

Utilizing the most current stock assessment information, the Gulf of Mexico fourth quarter report of the 2014 Status of U.S. Fisheries

(<http://www.nmfs.noaa.gov/sfa/statusoffisheries/2011/fourth/Q4%202011%20FSSI%20and%20nonFSSI%20StockStatus.pdf>) classifies the 13 species as follows:

Overfished and Experiencing Overfishing:

- greater amberjack
- gray triggerfish

Overfished and Not Experiencing Overfishing

- red snapper

Not Overfished or Experiencing Overfishing:

- yellowtail snapper
- hogfish \*
- yellowedge grouper
- vermilion snapper
- black grouper
- red grouper
- gag grouper
- mutton snapper

Unknown:

- goliath grouper – benchmarks do not reflect appropriate stock dynamics
- snowy grouper
- speckled hind
- warsaw grouper
- yellowfin grouper
- scamp
- yellowmouth grouper
- cubera snapper
- gray snapper
- lane snapper
- queen snapper
- blackfin snapper
- silk snapper
- wenchman
- jacks complex (lesser amberjack, banded rudderfish)

- tilefish (golden) – insufficient data

\* Hogfish genetic clusters are identified as (1) Western Florida (not including hogfish west of the Florida panhandle), (2) Florida Keys/Eastern Florida, and (3) Georgia through North Carolina. The Western Florida and Florida Keys/Eastern Florida genetic populations converge south of Naples, Florida. Therefore, a portion of the Florida Keys/Eastern Florida population occurs within the Gulf of Mexico Council’s area of jurisdiction, but the majority of the population occurs within the South Atlantic Council’s area of jurisdiction. These genetic populations have not been previously specified as distinct management stocks under South Atlantic and Gulf of Mexico Council FMPs. Recent findings indicate the Florida Keys/Eastern Florida is overfished and undergoing overfishing.

**Table 3.2.2.** Species of the Reef Fish FMP grouped by family.

\*\*Note: Goliath grouper is a protected grouper.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Stock Status</u>
<b>Family Balistidae – Triggerfishes</b>		
gray triggerfish	<i>Balistes capriscus</i>	Overfished, overfishing
<b>Family Carangidae – Jacks</b>		
greater amberjack	<i>Seriola dumerili</i>	Overfished, overfishing
lesser amberjack	<i>Seriola fasciata</i>	Unknown
almaco jack	<i>Seriola rivoliana</i>	Unknown
banded rudderfish	<i>Seriola zonata</i>	Unknown
<b>Family Labridae – Wrasses</b>		
Hogfish	<i>Lachnolaimus maximus</i>	Not overfished, no overfishing
<b>Family Malacanthidae – Tilefishes</b>		
Tilefish (golden)	<i>Lopholatilus chamaeleonticeps</i>	Unknown
blueline tilefish	<i>Caulolatilus microps</i>	Unknown
goldface tilefish	<i>Caulolatilus chrysops</i>	Unknown
<b>Family Serranidae – Groupers</b>		
Gag	<i>Mycteroperca microlepis</i>	Not overfished, no overfishing
red grouper	<i>Epinephelus morio</i>	Not overfished, no overfishing
Scamp	<i>Mycteroperca phenax</i>	Unknown
black grouper	<i>Mycteroperca bonaci</i>	Not overfished, no overfishing
yellowedge grouper	<i>Epinephelus flavolimbatus</i>	Not overfished, no overfishing
snowy grouper	<i>Epinephelus niveatus</i>	Unknown
speckled hind	<i>Epinephelus drummondhayi</i>	Unknown
yellowmouth grouper	<i>Mycteroperca interstitialis</i>	Unknown
yellowfin grouper	<i>Mycteroperca venenosa</i>	Unknown
warsaw grouper	<i>Epinephelus nigritus</i>	Unknown
**goliath grouper	<i>Epinephelus itajara</i>	Unknown, not overfishing
<b>Family Lutjanidae – Snappers</b>		
queen snapper	<i>Etelis oculatus</i>	Unknown
mutton snapper	<i>Lutjanus analis</i>	Not overfished, no overfishing
blackfin snapper	<i>Lutjanus buccanella</i>	Unknown
red snapper	<i>Lutjanus campechanus</i>	Overfished, no overfishing
cupera snapper	<i>Lutjanus cyanopterus</i>	Unknown
gray snapper	<i>Lutjanus griseus</i>	Unknown
lane snapper	<i>Lutjanus synagris</i>	Unknown
silk snapper	<i>Lutjanus vivanus</i>	Unknown
yellowtail snapper	<i>Ocyurus chrysurus</i>	Not overfished, no overfishing
vermilion snapper	<i>Rhomboplites aurorubens</i>	Not overfished, no overfishing
Wenchman	<i>Pristipomoides aquilonaris</i>	Unknown

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

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

## Protected Species

There are 38 species protected by federal law that may occur in the Gulf. Thirty-seven of these are under the jurisdiction of NMFS, while the West Indian manatee (*Trichechus manatus*) is managed by the U.S. Fish and Wildlife Service. Of the species under NMFS's jurisdiction, 28 are marine mammals that are protected under the Marine Mammal Protection Act (MMPA). The MMPA requires that each commercial fishery be classified by the number of marine mammals they seriously injure or kill. NMFS's List of Fisheries (LOF) classifies U.S. commercial fisheries into three categories based on the number of incidental mortality or serious injury they cause to marine mammals. More information about the LOF and the classification process can be found at: <http://www.nmfs.noaa.gov/pr/interactions/lof/>. Six of these marine mammal species are also listed as endangered under the Endangered Species Act (ESA) (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). In addition to those six marine mammals, five sea turtle species (Kemp's ridley, loggerhead, green, leatherback, and hawksbill), two fish species (Gulf sturgeon and smalltooth sawfish), and two coral species (elkhorn coral and staghorn coral) are also protected under the ESA. Designated critical habitat for *Acropora* corals, smalltooth sawfish, Gulf sturgeon, and the Northwest Atlantic Ocean distinct population segment of loggerhead sea turtles also occur within nearshore waters of the Gulf. NMFS has conducted specific analyses ("Section 7 consultations") to evaluate the potential adverse effects from the Gulf reef fish fishery on species protected under the ESA ([http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/index.html](http://sero.nmfs.noaa.gov/protected_resources/section_7/index.html)). Those consultations indicate that of the species listed above, sea turtles and smalltooth sawfish are the most likely to interact with the reef fish fishery. Species potentially affected by the fishery are discussed below.

## Marine Mammals

The gear used by the Gulf reef fish fishery is classified in the Marine Mammal Protection Act 2015 List of Fisheries as a Category III fishery (79 FR 77919). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to 1% of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. Dolphins are the only species documented as interacting with these fisheries. Bottlenose dolphins prey upon on the bait, catch, and/or released discards of fish from the reef fish fishery. They are also a common predator around reef fish vessels, feeding on the discards. Marine Mammal Stock Assessment Reports and additional information are available on the NMFS Office of Protected Species website: <http://www.nmfs.noaa.gov/pr/sspecies/>.

## Turtles

With regard to sea turtles, the Protected Resources Division released a biological opinion on September 30, 2011, which concluded that the continued operation of the Gulf reef fish fishery is

not likely to jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback) or smalltooth sawfish (NMFS 2011a). An incidental take statement was issued specifying the amount and extent of anticipated take, along with reasonable and prudent measures and associated terms and conditions deemed necessary and appropriate to minimize the impact of these takes. The Council addressed measures to reduce take in the reef fish fishery's longline component in Amendment 31 (GMFMC 2009). Other listed species and designated critical habitat in the Gulf were determined not likely to be adversely affected. However, on July 10, 2014, NMFS published a final rule designating 38 occupied marine areas within the Atlantic Ocean and Gulf as critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle distinct population segment (79 FR 39856). These areas contain one or a combination of nearshore reproductive habitat, winter area, breeding areas, and migratory corridors, or contain sargassum habitat. In the Gulf, designated critical habitat contains either nearshore reproductive habitat or sargassum habitat. Relative to this final rule, NMFS concluded in a September 16, 2014, memo that activities associated with the Gulf Reef Fish FMP will not adversely affect any of the aforementioned critical habitat units. The fishery managed by the FMP will either have no effect on the critical habitat due to location or methods, or will have discountable or insignificant effects that will not adversely affect the habitat's ability to perform its function.

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

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

The **hawksbill's** pelagic stage lasts from the time they leave the nesting beach as hatchlings until they are approximately 22-25 cm in straight carapace length (Meylan 1988; Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have

been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

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

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

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

Nichols 1988; Limpus and Nichols 1994; Lanyon et al. 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994; Lanyon et al. 1989). All five species of sea turtles are adversely affected by the Gulf reef fish fishery. Incidental captures are relatively infrequent, but occur in all commercial and recreational hook-and-line and longline components of the reef fish fishery. Captured sea turtles can be released alive or can be found dead upon retrieval of the gear as a result of forced submergence. Sea turtles released alive may later succumb to injuries sustained at the time of capture or from exacerbated trauma from fishing hooks or lines that were ingested, entangled, or otherwise still attached when they were released. Sea turtle release gear and handling protocols are required in the commercial and for-hire reef fish fisheries to minimize post-release mortality.

## **Fish**

Historically the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. In the South Atlantic region, they are most commonly found in Florida, primarily off the Florida Keys (Simpfendorfer and Wiley 2004). Only two smalltooth sawfish have been recorded north of Florida since 1963 (the first was captured off North Carolina in 1963 and the other off Georgia in 2002 (National Smalltooth Sawfish Database, Florida Museum of Natural History)). Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 meters (Bigelow and Schroeder 1953; Adams and Wilson 1995), while mature animals occur in waters in excess of 100 m (Simpfendorfer, pers. comm.). Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938; Bigelow and Schroeder 1953). Smalltooth sawfish are also affected by the Gulf reef fish fishery, but to a much lesser extent. Smalltooth sawfish primarily occur in the Gulf off peninsular Florida. Incidental captures in the commercial and recreational hook-and-line components of the reef fish fishery are rare events, with only eight smalltooth sawfish estimated to be incidentally caught annually, and none are expected to result in mortality (NMFS 2005). Fishermen in this fishery are required to follow smalltooth sawfish safe handling guidelines. The long, toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in fishing gear.

## **Corals**

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

dated February 13, 2013, NMFS determined the reef fish fishery was not likely to adversely affect *Acropora* because of where the fishery operates, the types of gear used in the fishery, and that other regulations protect *Acropora* where they are most likely to occur. None of the new information regarding population level concerns would affect those determinations.

### **Deepwater Horizon MC252 Oil Spill**

A discussion of the Deepwater Horizon MC252 event is located in Chapter 3.1 of this document and in Reef Fish Amendment 28.

## **3.3 Description of the Economic Environment**

### **3.3.1 Commercial Sector**

#### **3.3.1.1 Vessel Activity**

A description of the red snapper individual fishing quota (RS-IFQ) program is contained in the “Additional Information” section on the Catch Shares homepage available at: <https://portal.southeast.fisheries.noaa.gov/cs>. This description is incorporated herein by reference and is summarized below. Tables 3.3.1.1.1 and 3.3.1.1.2 contain summary vessel and trip counts, landings, and revenue information from vessels landing at least one pound of red snapper from 2010 through 2014. Data for 2014 is preliminary and data from years prior to the implementation of the RS-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 3.3.1.1.1. 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, 375 vessels per year landed red snapper (Table 3.3.1.1.1). These vessels, combined, averaged 2,962 trips per year on which red snapper was landed and 1,592 trips without red snapper (Table 3.3.1.1.1). The average annual total dockside revenue (2014 dollars) was approximately \$13.40 million from red snapper, approximately \$14.22 million from other species co-harvested with red snapper (on the same trip), and approximately \$10.26 million from other species harvested on trips on which no red snapper were harvested (Table 3.3.1.1.2). Total average annual revenues were approximately \$37.87 million, or approximately \$102,000 per vessel (Table 3.3.1.1.2).

**Table 3.3.1.1.1.** Summary of vessel counts, trips, and logbook landings (pounds gutted weight (lbs gw)) or vessels landing at least one pound of red snapper, 2010-2014.

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)
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
2014	410	401	1,628	2,735,798	2,217,577	560	1,008,224
<b>Average</b>	375	377	2,962	3,328,438	4,516,223	1,592	3,397,756

2014 data is preliminary; initial estimate using LAPPs data indicates 2014 red snapper landings of 5,016,056 lbs gw.  
 Source: NMFS SEFSC Logbook and NMFS SERO LAPPs data.

**Table 3.3.1.1.2.** Summary of vessel counts and revenue (thousand 2014 dollars) for vessels landing at least one pound of red snapper, 2010-2014.

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
2010	375	\$11,054,115	\$12,045,338	\$8,599,488	\$31,698,941	\$84,530
2011	368	\$11,529,750	\$16,697,540	\$12,707,463	\$40,934,753	\$111,236
2012	365	\$13,784,908	\$17,140,315	\$14,442,750	\$45,367,973	\$124,296
2013	359	\$19,261,015	\$17,538,051	\$12,295,498	\$49,094,564	\$136,754
2014	410	\$11,356,047	\$7,680,926	\$3,239,250	\$22,276,223	\$54,332
<b>Average</b>	375	\$13,397,167	\$14,220,434	\$10,256,890	\$37,874,491	\$102,230

2014 data is preliminary. Source: NMFS SEFSC Logbook and ALS data.

### 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).

### 3.3.1.2 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 (2011b) and are provided in Table 3.3.1.2.1. 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 3.3.1.2.1.** Average annual business activity associated with the harvests of vessels that harvest red snapper, 2010-2014.

Species	Average Annual Dockside Revenue (thousands) <sup>1</sup>	Total Jobs	Harvester Jobs	Output (Sales) Impacts (thousands) <sup>1</sup>	Income Impacts (thousands) <sup>1</sup>
Red snapper	\$13,397	2,367	309	\$176,393	\$75,177
All species <sup>2</sup>	\$37,874	6,694	873	\$498,668	\$212,528

<sup>1</sup>2014 dollars.

<sup>2</sup>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. These vessels also took trips during the year where only species other than red snapper were caught. 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 (2010-2014) by vessels that harvested red snapper was approximately \$37.87 million (2014 dollars). In terms of business activity, these revenues are estimated to support 6,694 FTE jobs (873 in the harvesting sector) and are associated with approximately \$498.67 million in output (sales) impacts and approximately \$212.52 million in income impacts.

### 3.3.1.3 Dealers

Commercial vessels landing red snapper can only sell their catch to federally permitted fish dealers. On July 21, 2015, 202 dealers eligible to receive red snapper were listed on the Catch Shares homepage (<https://portal.southeast.fisheries.noaa.gov/cs>). 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. In 2013, only 81 dealers were recorded in the LAPP data program

receiving red snapper, and this number has ranged from 66-82 over the period 2007-2013. However, although all dealers that purchase IFQ species should have their transactions recorded in the LAPPs data system, not all apparently do so, as evidenced by higher dealer counts being recorded with red snapper purchases in the ALS, which assembles data from state trip ticket data programs. For example, in 2012, 92 dealers reported red snapper purchases in the Gulf.

Because the ALS includes data on the purchase of all species by dealers, it is the best source of information on the purchase activity by these entities. In 2012, among the 92 dealers that reported red snapper purchases, 73 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 2012 had an ex-vessel value of approximately \$13.89 million (2014 dollars), or approximately 12.84% of the total revenues, approximately \$108.20 million (2014 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%).

#### **3.3.1.4 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](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 \$132.19 million (2014 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 \$62.41 million (2014 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**

#### **3.3.2.1 Angler Effort**

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

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

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), among other measures, but the three measures of effort listed above are used in this assessment. Estimates of the average annual red snapper effort (in terms of individual angler trips) for the charter and private/rental boat modes in the Gulf for 2010-2014 are provided in Table 3.3.2.1.1 for target trips and Table 3.3.2.1.2 for catch trips. 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>.

Because of the Deepwater Horizon MC252 oil spill, 2010 was not a typical year for recreational fishing due to the extensive closures and associated decline in fishing in much of the Gulf. For information on the Deepwater Horizon MC252 oil spill and associated closures, see: [http://sero.nmfs.noaa.gov/deepwater\\_horizon\\_oil\\_spill.htm](http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm). Recreational effort for Alabama and Louisiana was affected by the 2010 oil spill incident more than that for Florida. This holds true for both the charter (target and catch effort) and private modes (target and catch effort).

**Table 3.3.2.1.1.** Number of red snapper recreational target trips, by mode, 2010-2014\*.

	Alabama	West Florida	Louisiana	Mississippi	Total
<b>Charter Mode</b>					
2010	2,789	16,466	0	208	19,463
2011	19,010	29,642	1,424	0	50,076
2012	16,609	24,653	7,204	74	48,540
2013	23,638	32,689	7,191	38	63,556
2014	8,827	7,364	0	0	16,191
Average	14,175	22,163	3,164	64	39,565
<b>Private/Rental Mode</b>					
2010	20,759	129,748	3,338	5,451	159,296
2011	116,886	113,021	19,900	16,790	266,597
2012	72,030	136,594	43,547	13,515	265,686
2013	222,245	461,349	24,691	21,586	729,871
2014	56,274	162,956	0	7,519	226,749
Average	97,639	200,734	18,295	12,972	329,640
<b>All Modes</b>					
2010	23,548	146,214	3,338	5,659	178,759
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	242,941
Average	111,814	222,897	21,459	13,036	369,205

\* 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 3.3.2.1.2.** Number of red snapper recreational catch trips, by mode, 2010-2014\*.

	Alabama	West Florida	Louisiana	Mississippi	Total
<b>Charter Mode</b>					
2010	12,495	57,662	205	261	70,623
2011	43,550	101,500	3,066	221	148,337
2012	25,252	105,385	10,501	74	141,212
2013	52,331	107,466	12,321	38	172,156
2014	32,173	60,270	0	0	92,443
Average	33,160	86,457	5,219	119	124,954
<b>Private/Rental Mode</b>					
2010	46,017	252,300	5,764	6,964	311,045
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	306,019
Average	118,610	293,332	28,955	13,212	454,110
<b>All Modes</b>					
2010	58,512	309,962	5,969	7,225	381,668
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	151,771	379,789	34,174	13,331	579,064

\* 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.

Headboat data do not support the estimation of target or catch effort because target intent is not collected and the harvest data (the data reflect only harvest information and not total catch) are collected on a vessel basis and not by individual angler. Table 3.3.2.1.3 contains estimates of the number of headboat angler days for all Gulf States for 2010-2014.

**Table 3.3.2.1.3.** Headboat angler days, 2010-2014.

Year	W Florida/Alabama	Louisiana	Mississippi	Texas	Total
2010	111,018	217	*	47,154	158,389
2011	157,025	1,886	1,771	47,284	207,966
2012	161,973	1,839	1,840	51,771	217,423
2013	174,800	1,579	1,827	55,749	233,955
2014	191,365	1,634	1,623	51,231	245,853
Average	159,236	1,431	1,765	50,638	212,717

\*Confidential. Source: NMFS Southeast Region Headboat Survey (HBS).

### 3.3.2.2 Permits

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

A federal for-hire vessel permit has been required for reef fish since 1996 and the sector currently operates under a limited access system. On April 25, 2015, there were 1,159 valid (non-expired) or renewable Gulf of Mexico Charter/Headboat Reef Fish Permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat, operation as either a headboat or charter boat is not restricted by the permitting regulations, and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (HBS). Participation in the HBS is based on determination by the SEFSC that the vessel primarily operates as a headboat. Sixty-nine vessels were registered in the SHRS as of April 24, 2015 (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, including average fees and net operating revenues, 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. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment. (Note: although it is not a federal permit, Louisiana has developed an offshore angler permit. Tabulation of these permits would be expected to provide an estimate of

only a small portion of the total number of individual anglers expected to be affected by this proposed amendment.)

### **3.3.2.3 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 \$81 (Carter and Liese 2012; values updated to 2014 dollars<sup>3</sup>).

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 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 \$153.45 (2014 dollars) per charter angler trip (Liese and Carter 2012). The estimated NOR value per headboat angler trip is \$52.97 (2014 dollars) (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR per red snapper target trip are not available.

### **3.3.2.4 Recreational Sector Business Activity**

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

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

Estimates of the average red snapper effort (2010-2014) and associated business activity (2014 dollars) are provided in Table 3.3.2.4.1. Red snapper target effort (trips) was selected as the measure of red snapper effort. More individual angler trips catch red snapper than target red

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<sup>3</sup> Converted to 2014 dollars using the 2014 annual Consumer Price Index (CPI) for all US urban consumers provided by the Bureau of Labor and Statistics (BLS).

snapper, however, as shown in Tables 3.3.2.1.1 and 3.3.2.1.2. Estimates of the business activity associated with red snapper catch trips can be calculated using the ratio of catch trips to target trips because the available estimates of the average impacts per trip are not differentiated by trip intent or catch success. For example, if the estimated number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the business activity associated with these catch trips would equal three times the estimated impacts of target trips.

The estimates of the business activity associated with red snapper recreational trips are only available at the state level. Addition of the state-level estimates to produce a regional or national total will underestimate the actual amount of total business activity because summing the state estimates will not capture business activity that leaks outside the individual states. A state estimate only reflects activities that occur within that state and not related activity that occurs in another state. For example, if a good is produced in Alabama but sold in Florida, the measure of business activity in Florida associated with the its sale in Florida does not include the production process in Alabama. Assessment of business activity at the national (or regional) level would capture activity in both states and include all activity except that which leaks into other nations.

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

**Table 3.3.2.4.1.** Summary of red snapper target trips (2010-2014 average) and associated business activity (2014 dollars). Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
<b>Private/Rental Mode</b>					
Target Trips	97,639	200,734	18,295	12,972	*
Output Impact	\$5,362,296	\$11,031,053	\$1,405,198	\$463,965	*
Value Added Impact	\$2,901,900	\$6,246,386	\$675,252	\$235,988	*
Jobs	57	94	11	4	*
<b>Charter Mode</b>					
Target Trips	14,175	22,163	3,164	64	*
Output Impact	\$9,205,443	\$16,516,389	\$1,555,096	\$26,341	*
Value Added Impact	\$6,299,715	\$11,042,093	\$1,069,317	\$18,555	*
Jobs	88	143	12	0	*
<b>All Modes</b>					
Target Trips	111,814	222,897	21,459	13,036	*
Output Impact	\$14,567,739	\$27,547,442	\$2,960,294	\$490,305	*
Value Added Impact	\$9,201,615	\$17,288,479	\$1,744,569	\$254,543	*
Jobs	145	237	22	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).

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

### 3.4 Description of the Social Environment

This section provides the conceptual and historical background for the reallocation of red snapper between the commercial and recreational sectors. Allocation is a social issue of assigning access to a scarce resource. Allocating between sectors is difficult to determine because the “characteristics, motivations, and output measures for participants differ dramatically” (Gislason 2006). Reallocation is inherently controversial when the result will

benefit some and be detrimental to others. When considering allocations of fishing privileges, the Magnuson-Stevens Act requires fishery managers to examine social and economic factors as laid out in the National Standards. These include National Standard 4 which states if it becomes necessary to allocate fishing privileges among fishermen, the allocation will be fair and equitable, will promote conservation, and be carried out such that no particular entity receives an excessive share; National Standard 5 which states conservation and management measures will consider efficiency in the utilization of fishery resources except that no such measure will have economic allocation as its sole purpose; and National Standard 8 which states that conservation and management measures shall take into account the importance of fishery resources to fishing communities.

NMFS' technical memorandum on the principles and practice of allocation (Plummer et al. 2012) identifies two main criteria for the national standard mandates. Each criterion is based on a conceptual approach from distinct social sciences: economic efficiency and social equity. While a quantitative framework exists for analyzing economic efficiency, there is no such quantitative framework for evaluating fairness and equity (Plummer et al. 2012).

Plummer et al.'s (2012) review of approaches to evaluate fairness focuses on critiques of the application of efficiency analyses to policy. Specifically, efficiency is critiqued for the decision to ignore issues of equity by reducing such social concerns to assumptions of "other things being equal" (Dietz and Atkinson 2010, Copes 1997, Bromley 1977), when in fact, they are not. Assuming "other things being equal," as used in efficiency analyses, may omit consideration of interdependencies that may be important for their distributional effects (Copes 1997:65). That other things are *not* equal, precisely reflects those components of the human environment that are at the center of equity considerations. Further, willingness-to-pay studies measure perceptions and ideology of respondents more than actual behavior (Hausman 2012), overestimating any potential net benefits.

Although efficiency and fairness are often presented as a trade-off in environmental policy, research has shown that the public does not support prioritizing efficiency at the expense of equity (Dietz and Atkinson 2010:440), and that allocation fairness in the distribution of fishing rights is just as important as efficiency for making policy decisions (Bromley 1977). Ultimately, it is not possible to determine the expected net economic outcome resulting from the proposed sector reallocations, because inferences about economic efficiency are erroneous when each sector's quota is not efficiently allocated within the sector (Section 4.1.4).

According to a review of all allocation decisions made by regional fishery management councils around the country (Plummer et al. 2012), nearly all allocation decisions have been based on historical or current landings ratios. Following initial establishment of a sector allocation, seven stocks were identified as having undergone a revision to the original allocation; five of these examples are in the Gulf. One, vermilion snapper, had its sector allocation removed entirely. Of the remaining four Gulf examples, two stocks had their allocations shifted in favor of the recreational sector: greater amberjack (Amendment 30A, GMFMC 2008a) and red grouper (Amendment 30B, GMFMC 2008b). However, in both cases, an interim allocation was adopted and the selection of a new allocation was postponed until after the Council developed an allocation policy.

For greater amberjack, the action addressing sector allocation was moved to the considered but rejected section of the amendment; no reallocation was formally adopted. An interim allocation was agreed upon and the Council selected other management measures to reduce fishing effort by both sectors. For red grouper, the initial allocation decision in Amendment 1 (GMFMC 1989) set an aggregate grouper sector allocation, but did not establish allocations for individual grouper species. In 2004, a commercial red grouper quota was created, but the amendment specifically stated that no allocation decision was being made; the commercial quota represented 81% of the total allowable catch (GMFMC 2004b). As with greater amberjack, in 2008, the Council agreed upon an interim sector allocation and delayed further action until the Council could develop an allocation policy and consider the issue further. Thus, the two actions affected the distribution of access to the resource while postponing the formal establishment of a new sector allocation.

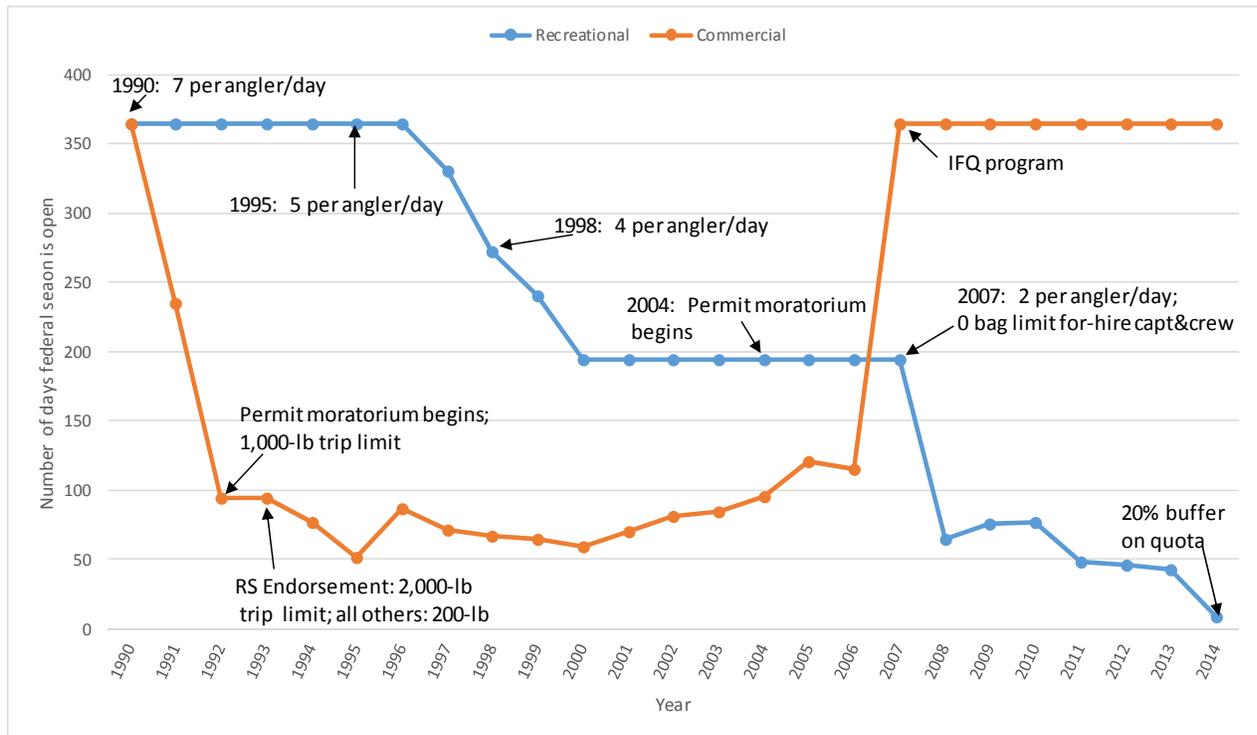
The other two Gulf examples concern species for which management is shared between the Gulf and South Atlantic Councils: king and Spanish mackerel. Since it was first established in 1987, the allocation for the Atlantic stock of Spanish mackerel has been changed twice, once toward the recreational sector and once toward the commercial sector. Initially established at 76% commercial and 24% recreational, the allocation was changed in 1989 to 50%:50%, due to a determination that the allocation was based on a time period of overfishing and low recreational participation. In 1998, the commercial allocation was increased because the recreational sector was not harvesting its quota. The 2% change in the king mackerel allocation towards the commercial sector was an adjustment to account for the sale of recreational catches that counted against the commercial quota. The allocations of both these species are scheduled to be reviewed in Coastal Migratory Pelagics Amendment 24, currently under development.

Finally, the remaining two cases come from the Pacific Fishery Management Council's management of salmon, Amendments 7 (PFMC 1986) and 9 (PFMC 1988). In contrast to nearly all allocation decisions that have been based on landings ratios, the rationale for these two cases was to provide more stability to the recreational sector. For both stocks, the recreational component is a directed fishery while the commercial component is provided for bycatch. In both examples, the reallocation was based on the recommendations from a working group of commercial and recreational fishermen and is an example of negotiation-based allocation. Also in this case, the sector allocations shift depending on the size of the quota, similar in design to Alternatives 5 and 6 in this amendment.

#### Context of red snapper management in the Gulf

In the Gulf, the commercial and recreational sectors are managed differently and separately. The existing allocation for red snapper was implemented in 1990 alongside the establishment of a total allowable catch, and corresponding management measures intended to reduce landings by 20% for each sector (GMFMC 1989). Thus, at the time the allocation was established, there was already great demand for red snapper by both sectors. Since that time, the number of both recreational anglers and seafood consumers has increased, along with the volume of tourists and participation of other stakeholder groups in fishery management. The issue of reallocating red snapper is driven by competing visions of who should have access privileges to the resource: recreational, commercial, and/or others.

A minimum size limit of 13” was adopted for both sectors, alongside a recreational bag limit of 7 fish per angler per day, and a commercial quota of 3.1 mp. Since then, both sectors have been subject to additional measures to reduce harvests and effort (Figure 3.4.1) which have been insufficient to restrict harvests before reaching the quota for either sector (Figure 3.4.2).

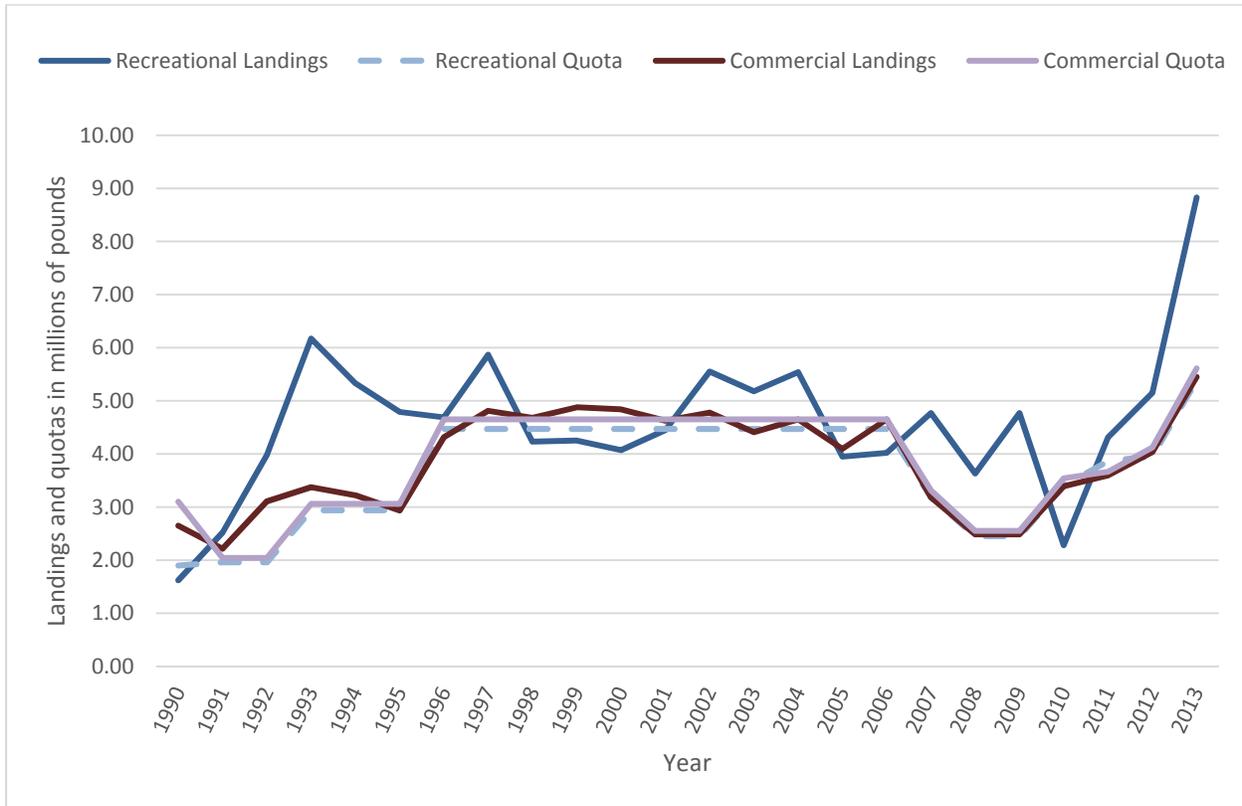


**Figure 3.4.1.** Length of fishing season in federal waters for commercial and recreational sectors (1990-2014), with changes in bag limits, trip limits, and implementation dates of limited access regulations. The timeline does not include minimum size limits or additional requirements such as use of a vessel monitoring system.

For the **commercial sector**, the year the allocation was established (1990) was the last year commercial fishing was open year round until implementation of the RS-IFQ program in 2007 (Figure 3.4.1). Entry to the commercial sector was capped in 1992, when the commercial reef fish permit moratorium began. No additional commercial permits have been available since that time, effectively capping sector participation. The following year, the system of red snapper endorsements for commercial permit holders was adopted. A red snapper endorsement allowed the holder a 2,000-lb trip limit, while all other commercial permit holders were allowed a 200-lb trip limit.

Despite the adoption of endorsements and trip limits to constrain harvests, from the early 1990’s until implementation of the RS-IFQ program, the commercial fishing seasons were best described as “derbies,” where vessels raced to fish before each harvest closure. During this time, the commercial harvest was usually open only 10 days at a time. The RS-IFQ program was

implemented in 2007 to address two identified problems in commercial red snapper fishing: the derby fishing conditions and “overcapacity” in the commercial sector.



**Figure 3.4.2.** Recreational and commercial landings (solid lines) and quotas (dotted lines).

The RS-IFQ program fundamentally restructured commercial fishing for red snapper. The opportunity for any permitted commercial vessel to harvest a trip limit of red snapper during a short open season was replaced by a system in which a vessel’s crew must obtain access to a quantity of red snapper prior to being landed. Thus, the system of attempting to constrain commercial harvest to a quota using trip limits and closed seasons was replaced by a system based on the distribution and exchange of portions of the red snapper commercial quota. This has effectively eliminated the occurrence of quota overages. From the sector-wide perspective, this has enabled the fishing season to remain open year round and for total landings to remain within the quota. The implementation of the RS-IFQ program has resolved both issues of subtractability and excludability, within the sector (see below). Though these controls appear to have improved the problems they were designed to address, the program has benefited some fishermen and been a detriment to others.

Although the **recreational sector** is often described as “open access,” open entry is more accurate as a true open access resource lacks rules of usage (Feeny et al. 1990). For the recreational sector, harvest constraints are implemented primarily by reductions to the bag limit and shortening of the fishing season. The bag limit has been reduced from seven red snapper per

angler per day in 1990 (when the sector allocation was established), to five fish in 1995, four fish in 1998, and two fish in 2007 (Figure 3.4.1). In 1997, the recreational season in federal waters was shortened for the first time from year round and has been getting shorter ever since. From 2008 through 2012, the recreational season in federal waters averaged 62 days in length. In 2014, the season lasted nine days in federal waters; additional fishing opportunities were provided by the Gulf States in respective state territorial waters.

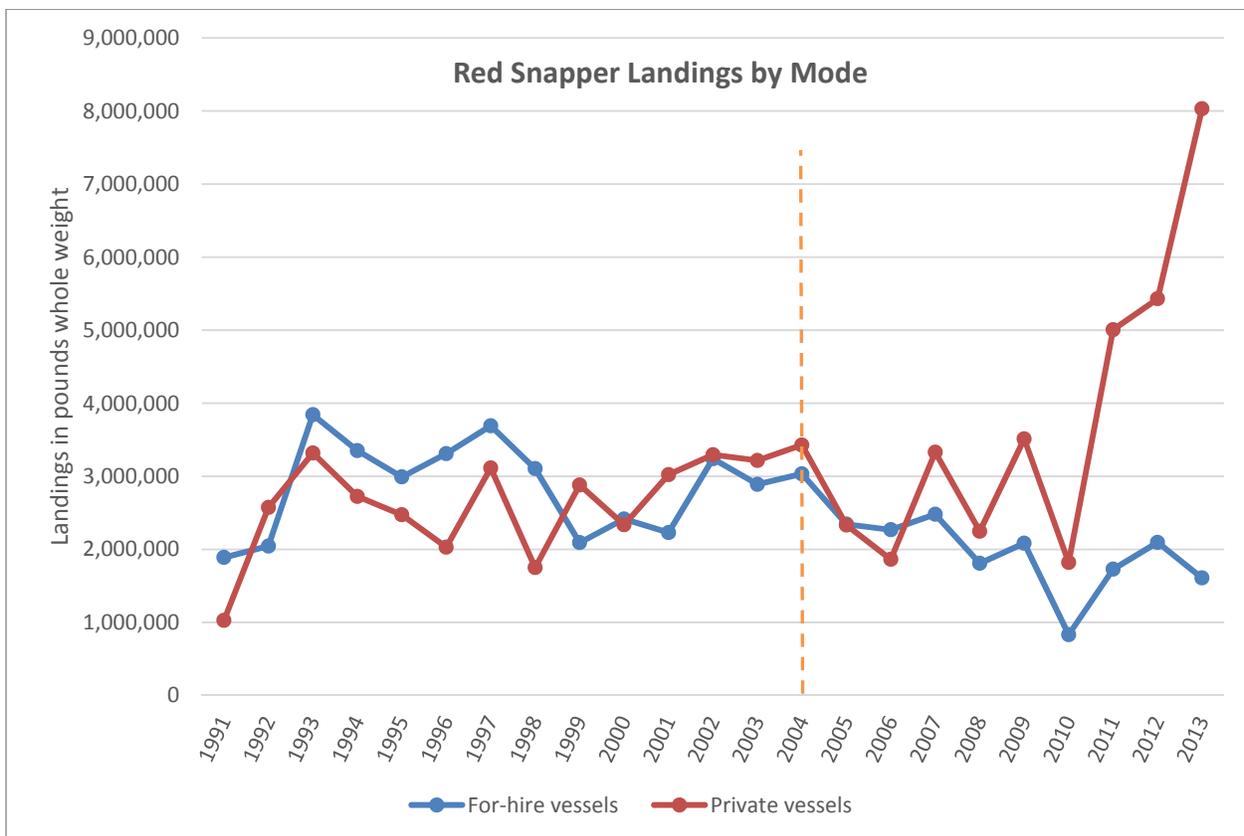
The practice in recent years of projecting season length for a given quota based on past effort has not prevented the quota from being exceeded (Figure 3.4.2). Without attending measures to actually stop harvest when the quota is met, a quota does not on its own constitute an output control. There is a disjunction between management measures used to constrain the rate of recreational harvest, and attempts to estimate the rate of harvest under such measures, as anglers modify their fishing activity in response to new access restrictions. Even with additional quota, continuing to rely on existing management measures to slow harvest may allow two problems to continue. First, the harvest coming from the recreational sector will continue to face the problems of “subtractability” and “excludability,” where the resource is open to anyone able to access it during a particular time. Without rules governing who has access to the resource (excludability), the effects of smaller returns are shared among all participants (subtractability; Feeny et al. 1990; McCay and Acheson 1987).

The second problem concerns the quota overages. Alongside the short seasons and lag time to calculate landings from MRIP, quota overages are likely to continue under the system of predicting season length based on past fishing effort. Faced with a shorter season for a desired target species, individual anglers rationally adjust their effort and fishing activity. With no restrictions on entry to the fishery (excludability), new participants join as well. This has resulted in an inverse relationship between season length and effort, where the shorter the length of the recreational fishing season, the more red snapper have been landed per day, as angler effort is consolidated into a shorter time. However, it cannot be assumed that the pattern would reverse, where an increase in the length of the season would correspond with a proportional reduction in effort. An increasing proportion of the total recreational quota has been landed outside of the federal season under less restrictive state regulations. Compounding this problem, the average weight of a red snapper has increased under the rebuilding plan meaning that each angler’s bag limit weighs more. Thus, the rate at which the quota is caught accelerates. That recreational anglers as a sector are said to “exceed the quota” is not a reflection of individual angler compliance, but rather, reflects rational changes to fishing activity under situations of decreased access, and the inability of the existing management system to close harvest before the quota is met. To reduce the likelihood of further quota overages, the Council recently adopted accountability measures that establish 1) a 20% buffer to the recreational quota, on which the season length would be projected; and 2) an overage adjustment which would decrease the recreational quota in the year following a quota overage by the amount of the overage (GMFMC 2014a). Preliminary landings for 2014 show that recreational landings remained well below the sector’s quota.

Recreational anglers can access red snapper fishing by private vessels and for-hire vessels. Both modes share the same bag limit and fishing season; however, additional restrictions are placed on the for-hire fleet, to which private vessels are not subject. Since 2007, captain and crew of for-

hire vessels have been prohibited from retaining a bag limit, and there are mandatory reporting requirements for headboats to report all landings and discards. In 2004, a moratorium was put in place on the issuance of federal for-hire permits. As with commercial permits, no new federal for-hire permits may be issued, but existing permits may be transferred. There is no mechanism to limit entry by private recreational vessels. Also, since 2009, federally permitted for-hire vessels are prohibited from landing red snapper outside of the federal season, such as during extended state water seasons.

Thus, the issue of excludability described above reflects private recreational vessels only. During the open season, participation is limited to a finite number of for-hire vessels, but there is no restriction to the number of private vessels that may harvest red snapper. Since the permit moratorium became effective, the number of federally permitted for-hire vessels has decreased, while the number of private fishing licenses has increased. The proportion of red snapper landed by each component of the recreational sector has shifted toward private vessel landings representing a greater proportion of the recreational quota (Figure 3.4.3). For the years 1991-2011, private-angler landings of red snapper represent 45.5% of recreational landings, but represent 56% for just the last six years. For-hire vessel landings of red snapper have decreased proportionally for these same years, from 54.5% to 44% of the recreational landings.



**Figure 3.4.3.** Red snapper recreational landings by private vessels and for-hire vessels (includes charter boats and headboats). Source: Calibrated MRIP landings, SEFSC Recreational ACL database.

In part as a response to this trend, separate allocations were recently established for the private angling component and the federal for-hire component of the recreational sector (GMFMC 2014b). These component allocations will be the basis for projecting the season lengths in federal waters for anglers utilizing private vessels and state-licensed guideboats (private angling component) and those fishing from federally permitted for-hire vessels (for-hire component). The component allocations and seasons will be in place for the years 2015-2017, unless otherwise modified by the Council.

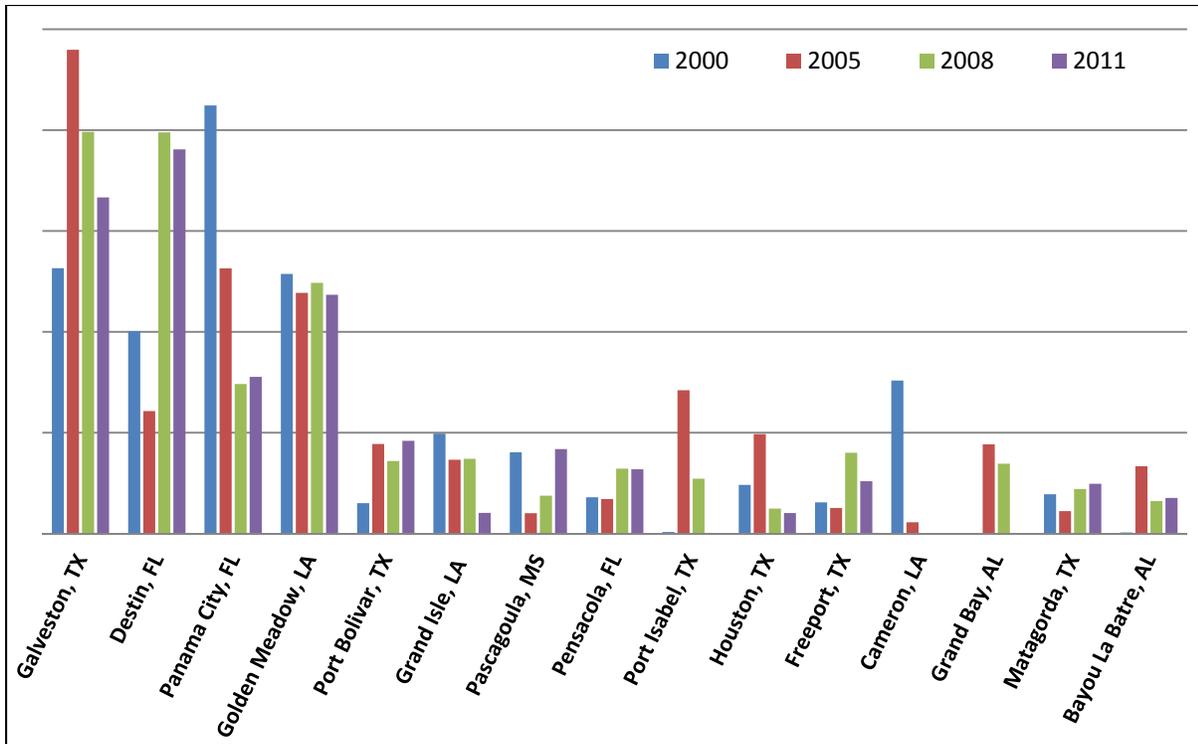
## **Fishing Communities**

This section provides a description of where recreational and commercial fishing for red snapper occurs. The description is based on the geographical distribution of landings and the relative importance of red snapper for commercial and recreational communities. This spatial approach enables discussion of fishing communities and the importance of fishery resources to those communities, as required by National Standard 8.

### Commercial Fishing Communities

To identify commercial reliance, a regional quotient (RQ) measure was used. The RQ measures the relative importance of a given species across all communities in the region and represents the proportional distribution of commercial landings of a particular species. This proportional measure does not provide the number of pounds or the value of the catch; data that might be confidential at the community level for many places. The RQ is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities in the region. The measure is a way to quantify the importance of red snapper to communities around the Gulf coast and suggest where impacts from management actions are more likely to be experienced. The data used for the RQ measure were assembled from the accumulated landings system (ALS), which includes commercial landings of all species from both state and federal waters and is based on dealers' reports. Because of this, the address of a dealer may not be the coastal community where the dealer's facility is located.

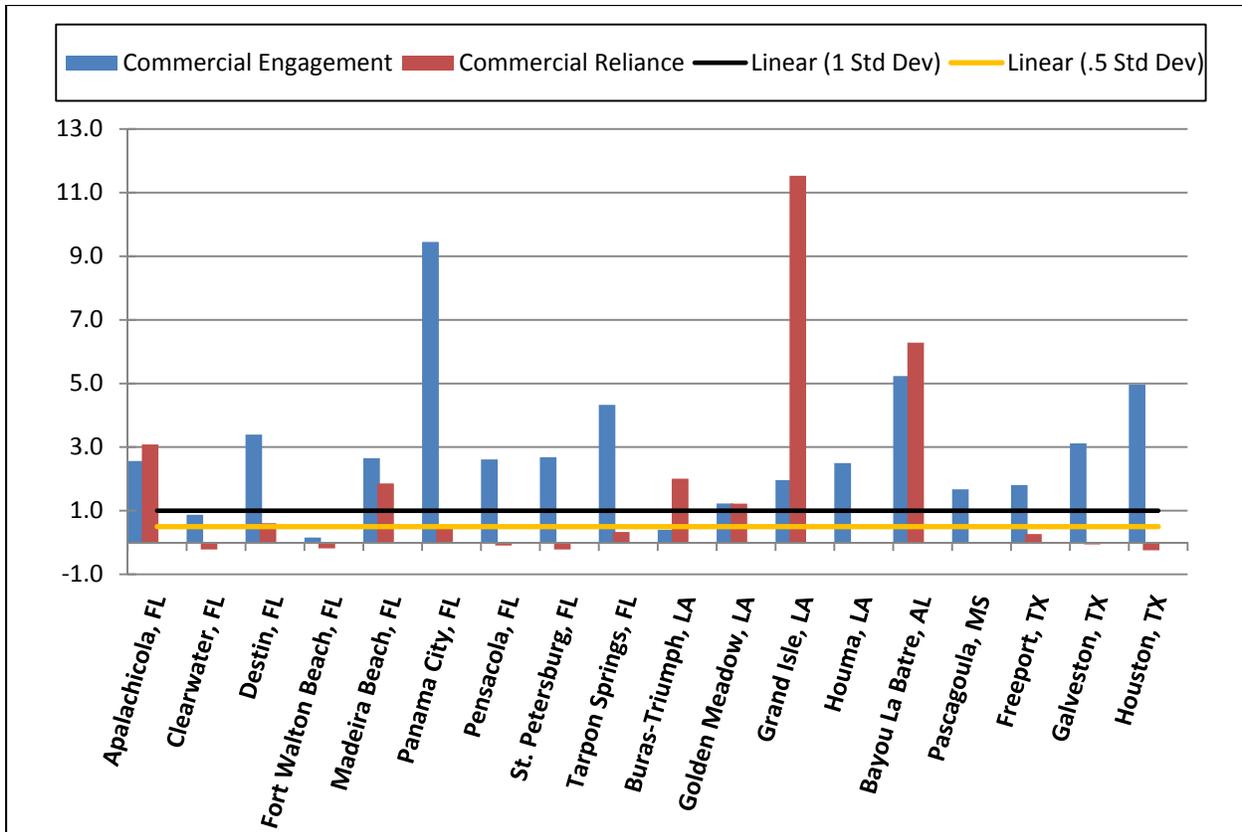
Commercial red snapper fishing is prosecuted throughout the Gulf region with the majority of landings occurring in the northern Gulf. Based on the RQ measure, the top 15 commercial red snapper fishing communities are identified in Figure 3.4.4. A community's proportion of total landings is not static and changes over time. Thus, the figure provides rankings by RQ value for four years: 2000, 2005, 2008, and 2011. The top three communities in terms of commercial landings are Galveston, Texas; Destin, Florida; and Golden Meadow, Louisiana (Figure 3.4.4). While in 2000, Panama City, Florida ranked first for commercial red snapper landings Gulf-wide, the community has since been replaced by Destin, Florida in terms of commercial landings of red snapper. Data are not available concerning location of red snapper consumers, such as the proportion of Gulf red snapper that is consumed within the region or elsewhere in the U.S.



**Figure 3.4.4.** Top 15 commercial red snapper fishing communities by RQ value for four years. Source: Southeast Fisheries Science Center, accumulated landings system (2011).

To better understand how Gulf fishing communities are engaged and reliant on fishing, indices were created using secondary data from permit and landings information for the commercial and recreational sectors (Jepson and Colburn 2013; Jacob et al. 2012). Fishing engagement is primarily the absolute numbers of permits, landings, and value. Fishing reliance has many of the same variables as engagement divided by population to give an indication of the per capita impact of this activity.

Using a principal component and single solution factor analysis each community receives a factor score for each index to compare to other communities. With the selected communities from both sectors, 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. Because the factor scores are standardized a score above 1 is also above one standard deviation. Using the thresholds of fishing dependence of ½ and one standard deviation, Figure 3.4.5 suggests that several communities are substantially engaged or reliant or both on commercial fishing.



**Figure 3.4.5.** Top 18 red snapper fishing communities’ commercial engagement and reliance. Source: Southeast Regional Office, social indicators database (2012).

### Recreational Fishing Communities

Red snapper is harvested recreationally in all states in the Gulf. However, as the red snapper stock has continued to rebuild, the proportion of landings made up by the eastern Gulf States (Alabama and western Florida) has increased compared to the western Gulf States (Texas and Louisiana). Most of the recreational catch is now landed in the eastern Gulf (Table 3.4.1). Fishermen in other Gulf States are also involved in recreational red snapper fishing, but these states represent a smaller percentage of the total recreational landings.

**Table 3.4.1.** Percentage of total recreational red snapper landings by state for 2013.

State	Landings
AL	43.9%
FL (Gulf Coast)	40.8%
LA	6.0%
MS	4.5%
TX	4.9%

Source: SERO Calibrated MRIP landings (Dec 2014).

Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper. Data reflecting commercial landings of red snapper may or may not reflect areas of importance for recreational fishing of red snapper. It cannot be assumed that the proportion of commercial red snapper landings among other species in a community would be similar to its proportion among recreational landings within the same community because of sector differences in fishing practices and preferences.

While there are no landings data at the community level for the recreational sector, Table 3.4.2 offers a ranking of communities based upon the number of reef fish charter permits and reef fish charter permits divided by population. This is a crude measure of the reliance upon recreational reef fish fishing and is general in nature and not specific to red snapper. Ideally, additional variables quantifying the importance of recreational fishing to a community would be included (such as the amount of recreational landings in a community, availability of recreational fishing related businesses and infrastructure, etc.); however, these data are not available at this time. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the list suggesting a greater importance for recreational fishing in that region. At this time it is impossible to examine the intensity of recreational fishing activity at the community level for a specific species. However, it is likely that those communities that have a higher rank in terms of charter activity and have a dynamic commercial fishery for red snapper will likely have a vigorous recreational red snapper fishery. The communities that meet those criteria are: Destin, Panama City, and Pensacola, Florida; Port Bolivar and Freeport, Texas; and Venice and Grand Isle, Louisiana.

**Table 3.4.2.** Average community rank by total number of reef fish charter permits and divided by community population (SERO 2012).

State	Community	Reef Fish charter permits	Permit Rank	Pop	Permit/Pop	Permit/Pop rank	Combined rank
AL	Orange Beach	105	2	5185	0.0203	3	5
LA	Venice	36	7	202	0.1782	1	8
FL	Destin	114	1	12307	0.0093	10	11
AL	Dauphin Island	19	12	1375	0.0138	5	17
TX	Port Aransas	33	9	3444	0.0096	9	18
LA	Grand Isle	14	17	597	0.0235	2	19
TX	Freeport	40	5	12183	0.0033	15	20
TX	Port O'Connor	15	15	1253	0.0120	7	22
FL	Panama City	60	3	36795	0.0016	20	23
FL	Steinhatchee	13	19	1047	0.0124	6	25
FL	Pensacola	43	4	52903	0.0008	22	26
FL	Panama City Beach	32	10	11364	0.0028	16	26
FL	Apalachicola	17	14	2357	0.0072	12	26
FL	Naples	35	8	20405	0.0017	19	27
LA	Chauvin	15	15	3220	0.0047	13	28
TX	Galveston	38	6	49990	0.0008	23	29
FL	Cedar Key	8	27	463	0.0173	4	31
TX	Matagorda	8	27	710	0.0113	8	35
MS	Biloxi	26	11	43921	0.0006	25	36
FL	Mexico Beach	9	25	1181	0.0076	11	36
FL	Carrabelle	10	23	2612	0.0038	14	37
FL	Sarasota	18	13	52877	0.0003	26	39
FL	Madeira Beach	11	21	4335	0.0025	18	39
FL	Port St Joe	10	23	3560	0.0028	17	40
FL	Tarpon Springs	14	17	23071	0.0006	24	41
FL	St Petersburg	12	20	245715	0.0000	27	47
FL	Treasure Island	8	27	6847	0.0012	21	48
TX	Houston	11	21	2068026	0.0000	29	50
TX	Corpus Christi	9	26	299324	0.0000	28	54

Destin and Panama City are likely more reliant with regard to recreational fishing as they have numerous charter operations. When visiting charter service websites from these two communities photos of red snapper are very prominent and advertised as a key target species (<http://www.fishdestin.com/fishinggallery.html>; and <http://www.jubileefishing.com/>). Panama City is less reliant upon red snapper and located in a more rural area than the other communities. In terms of occupation it has the lowest percentage working in farming, forestry, and fishing, yet it does have the largest percentage class of worker in that category. All of these communities are considered to be primarily involved in fishing based upon their community profiles (Impact Assessment, Inc. 2005).

The Orange Beach Red Snapper World Championship Tournament, billed as “Alabama’s state celebration of recreational saltwater fishing,”<sup>4</sup> was an annual event in March. Dauphin Island, Alabama also has a number of charter services that specialize in bottom fishing, especially for red snapper<sup>5</sup>. All three Alabama communities are considered primarily involved in fishing as noted in their fishing communities’ profiles (Impact Assessment, Inc. 2006). Red snapper fishing is featured at Pascagoula charter websites<sup>6</sup> and the community is regarded as primarily involved in fishing according to its community profile (Impact Assessment, Inc. 2006).

Venice and Grand Isle, Louisiana, are also ranked among the top recreational fishing communities. A sampling of charter service websites from these communities indicates they do feature red snapper as a target species but not as prominently as charter services from other states.

Red snapper are also an important species for charter fishing in Galveston and Freeport, Texas. Many of the charter services include photos of red snapper catches on their website and note that this species is one of their prime target species.<sup>7</sup> Although, many inshore species like trout and redfish are more prominently displayed. Matagorda and Freeport are noted as being primarily involved in fishing while Galveston is secondarily involved.

The following figure was produced from the indicator database as described above for the commercial sector. Figure 3.4.6 identifies recreational communities 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.

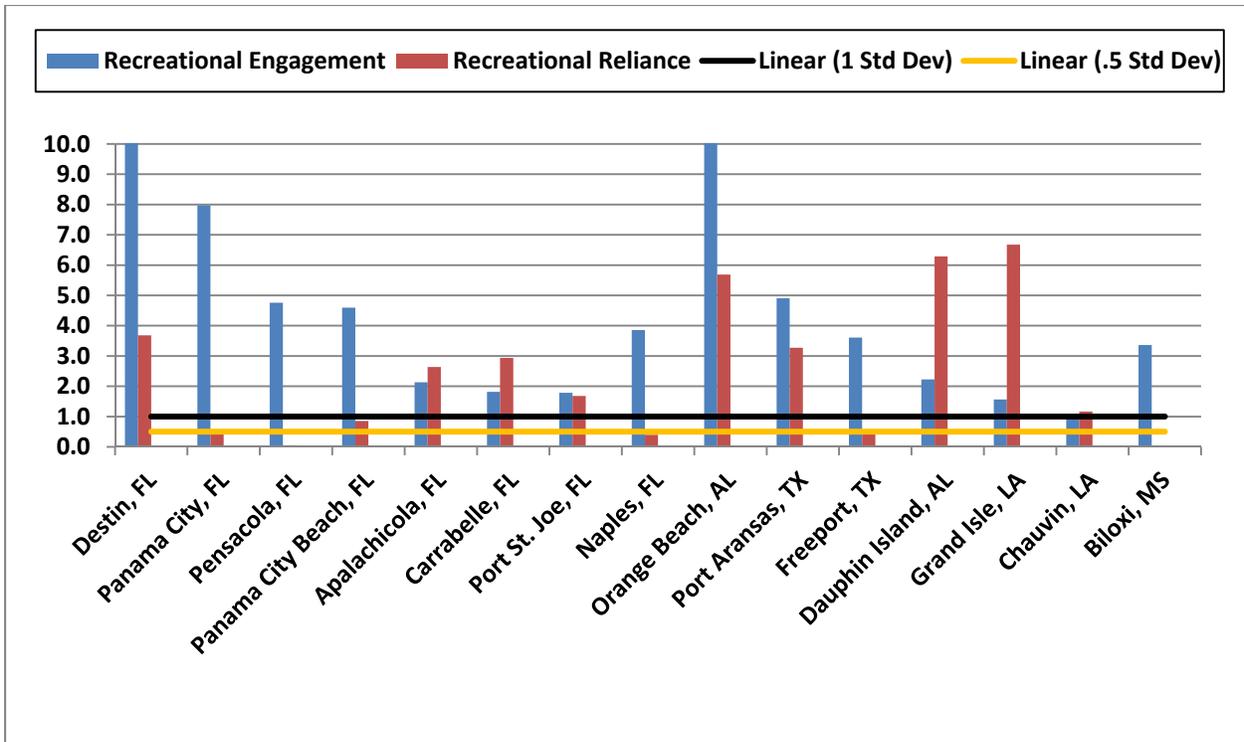
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<sup>4</sup> [http://www.cityoforangebeach.com/pages\\_2007/pdfs/events/2009/2009\\_Snapper\\_Tournament.pdf](http://www.cityoforangebeach.com/pages_2007/pdfs/events/2009/2009_Snapper_Tournament.pdf)

<sup>5</sup> <http://gulfinfo.com/fishing.htm>

<sup>6</sup> <http://www.jkocharters.com/1938863.html>

<sup>7</sup> <http://www.texasaltwaterfishingguide.com/> or <http://www.matagordabay.com/>



**Figure 3.4.6.** Top 15 recreational fishing communities' engagement and reliance.  
 Source: Southeast Regional Office, social indicators database (2012).

## 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

### Action – Retain a Portion of the Commercial Red Snapper Quota for 2016

**Alternative 1:** No Action - Distribute a 100% of the 2016 red snapper commercial quota to red snapper Individual Fishing Quota (RS-IFQ) account shareholders on January 1, 2016.

**Alternative 2:** Before the distribution of the 2016 red snapper commercial quota to RS-IFQ account shareholders, **withhold up to 34.7 % of the red snapper commercial quota**. The exact amount to be retained for later distribution will be determined by the percentage of the red snapper commercial quota that would be reallocated to the recreational sector under Reef Fish Amendment 28.

### 4.1 Effects on the Physical Environment

The impacts to the physical environment resulting from shifting sector allocations is discussed in Amendment 28, and is hereby incorporated by reference. Withholding part of the commercial quota (**Alternative 2**) should not have any impacts on the physical environment beyond those already addressed in Amendment 28.

An evaluation of the effects of the alternatives on the physical environments relative to the no action (**Alternative 1**) indicates that this action does not directly affect these environments and likely has only minimal indirect effects. The magnitude of these effects should be positively correlated with the change in allocation as presented in Amendment 28 (GMFMC 2015). For the physical environment, some effort shifting between sectors is likely to occur for red snapper; however, because the reef fish fishery is a multispecies fishery, any shifting is likely to be small given the overall effort of the fishery as a whole.

### 4.2 Effects on the Biological/Ecological Environment

The impacts to the biological environment resulting from shifting sector allocations is discussed in Amendment 28, and is hereby incorporated by reference. Withholding part of the commercial quota (**Alternative 2**) should not have any impacts on the biological environment beyond those already addressed in Amendment 28.

An evaluation of the effects of the alternatives on the biological environment relative to the no action (**Alternative 1**) indicates that this action does not directly affect these environments and likely has only minimal indirect effects. The magnitude of these effects should be positively correlated with the change in allocation as presented in Amendment 28 (GMFMC 2015). Both alternatives are expected to allow the stock to recover by 2032, resulting in positive effects and maintaining consistency with the rebuilding plan. Increasing the recreational quota is not

expected to increase impacts to the biological environment. The increase in recreational quota as a result of Amendment 28 (GMFMC 2015) would inherently increase the fishing effort, and, in turn, enhance 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.

Indirect effects of these alternatives on the ecological environment are not well understood. Changes in the population size structure, as a result of changing fishery selectivity 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 has rebuilt, the average size of red snapper caught in the recreational sector has also increased. As a result, the recreational quota has been reached faster with fewer fish caught, which has caused shorter seasons despite quota increases (see [http://sero.nmfs.noaa.gov/sustainable\\_fisheries/gulf\\_fisheries/red\\_snapper/index.html](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 the best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC252 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). The final rule also included some areas that contain foraging habitat and two large areas that contain *Sargassum* habitat as critical habitat. 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. In 2014, the National Marine Fisheries Service (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.

On July 10, 2014, NMFS published a final rule designating 38 occupied marine areas within the Atlantic Ocean and Gulf as critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle distinct population segment (79 FR 39856). These areas contain one or a combination of

nearshore reproductive habitat, winter area, breeding areas, and migratory corridors, or contain sargassum habitat. In the Gulf, designated critical habitat contains either nearshore reproductive habitat or sargassum habitat. Relative to this final rule, NMFS concluded in a September 16, 2014, memo that activities associated with the Gulf Reef Fish FMP will not adversely affect any of the aforementioned critical habitat units. The fishery managed by the FMP will either have no effect on the critical habitat due to location or methods, or will have discountable or insignificant effects that will not adversely affect the habitat's ability to perform its function.

In 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. On September 30, 2011, the Protected Resources Division released a biological opinion which, after analyzing the best available data, the current status of the species, an 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 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). 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 listed species. The proposed action relates to the harvest of an indigenous species in the Gulf, and the activity proposed in this amendment 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.

### **4.3 Effects on the Economic Environment**

The final decision made by the Secretary of Commerce relative to Reef Fish Amendment 28 (red snapper allocation) and the timing of that decision will determine the economic effects expected to result from this framework action. Amendment 28 would reallocate portions of the red snapper ACL to the recreational sector, i.e., increase the recreational red snapper allocation and decrease the commercial allocation by an equivalent amount. After the submission of Amendment 28 for Secretarial review, three plausible outcomes with respect to implementation could occur, each of which would affect the expected effects of this proposed amendment. First, the Secretary could approve Amendment 28 in early 2016, making implementation in 2016 possible. Second, Amendment 28 could receive final approval late in 2016, making

implementation in 2016 impossible. Finally, the Secretary could disapprove and not implement Amendment 28. The following discussion of the expected economic effects of the alternatives in this proposed amendment will be discussed within the context of these three outcomes with respect to final action on Amendment 28.

Under **Alternative 1** (no action), if Amendment 28 is not approved by the Secretary of Commerce or if it is approved later in 2016 and scheduled for implementation in 2017, recreational anglers would continue to receive 49 percent of the red snapper quota and commercial RS-IFQ shareholders would receive the totality of their 2016 red snapper allocation. Therefore, **Alternative 1** would not be expected to result in any economic effects because it would not affect the harvests and customary uses of red snapper by the commercial or recreational sectors.

If Amendment 28 is approved sufficiently early in 2016 for implementation in 2016, **Alternative 1** would not allow the expected effects of the reallocation of red snapper between the sectors to occur in 2016. Because commercial RS-IFQ shareholders would have already received the totality of their allocation, any increase in the recreational red snapper allocation and associated potential economic benefits would be postponed to the following year (2017). Under this scenario, **Alternative 1** would be expected to result in indirect economic effects because it would delay the potential economic benefits to the recreational sector and costs to the commercial sector expected to result from reallocation. By delaying the Council's preferred reallocation of red snapper resource, **Alternative 1** would be expected to result in indirect adverse economic effects to the recreational sector because it would not allow the potential benefits of an increase in the recreational red snapper quota through reallocation to be realized. Conversely, **Alternative 1** would be expected to result in indirect economic benefits to the commercial sector because it would shield the sector from a decrease in the commercial red snapper quota for 2016. The economic effects expected to result from the reallocation of red snapper between the sectors are discussed in Amendment 28.

If Amendment 28 is approved and scheduled for implementation in 2016, **Alternative 2** would allow the Council's preferred reallocation to be established in 2016. Although it would allow potential benefits and costs expected to result from Amendment 28 to materialize in 2016, **Alternative 2** is not expected to result in additional economic effects under this scenario. The potential benefits to the recreational sector and costs to the commercial sector of a reallocation of the red snapper quota between the sectors are discussed in Amendment 28.

If Amendment 28 is not approved by the Secretary of Commerce or if it is approved later in 2016 and scheduled for implementation in 2017, the commercial quota withheld from distribution would be returned to RS-IFQ shareholders in 2016. Under this scenario, **Alternative 2** would be expected to result in direct economic effects stemming from potential modifications to customary fishing and business practices and from the uncertainty that may arise from the timeline for returning withheld portions of the commercial quota. The retention and subsequent return to RS-IFQ participants of a portion of their annual RS-IFQ allocation may preclude some RS-IFQ participants, particularly those with limited RS-IFQ shares, from harvesting red snapper during periods of high demand, e.g., lent, thereby resulting in revenue losses. RS-IFQ participants planning to sell their annual allocation at a specific date could be precluded from completing the

transaction, potentially resulting in economic losses. Although these economic effects cannot be quantified, it is expected that the longer RS-IFQ annual allocations are retained by NMFS, the greater these effects are expected to be.

## 4.4 Effects on the Social Environment

Amendment 28 would reallocate a portion of the red snapper ACL from the commercial sector to the recreational sector. The social effects expected to result from this framework action relate to the final decision to implement Amendment 28 and the timing of that decision under three scenarios, as discussed in Section 4.3.

If Amendment 28 is not approved by the Secretary of Commerce or if it is approved later in 2016 to be implemented in 2017, recreational anglers would continue to receive 49% of the red snapper ACL and commercial RS-IFQ shareholders would receive the totality of their 2016 red snapper allocation, for 2016. Thus, no additional effects would be expected to result from **Alternative 1**, as it would not affect the harvest and customary uses of red snapper by the commercial and recreational sectors.

If Amendment 28 is approved in early 2016 and scheduled for implementation in 2016, **Alternative 1** would not allow the reallocation of red snapper between the sectors to occur in 2016 because commercial RS-IFQ shareholders would have already received the totality of the year's allocation at the beginning of 2016. Thus, any increase in the recreational red snapper ACL, and attending benefits to the recreational sector would be postponed, as would the decrease to the commercial red snapper ACL, and attending negative impacts to the commercial sector expected to result from a reallocation. Under this scenario, **Alternative 1** would be expected to result in indirect negative effects by delaying the potential benefits to the recreational sector. Conversely, **Alternative 1** would be expected to result in indirect positive benefits to the commercial sector because it would prevent the decrease in the commercial ACL from occurring in 2016. The social benefits and negative impacts expected to result from the reallocation of red snapper between the sectors are discussed in Amendment 28.

If Amendment 28 is approved and scheduled for implementation in 2016, **Alternative 2** would allow the Council's decision on reallocation to be established in 2016. Although it would allow the potential benefits and negative impacts expected to result from Amendment 28 to occur in 2016, **Alternative 2** is not expected to result in additional social effects under this scenario, beyond the potential benefits to the recreational sector and negative impacts to the commercial sector as discussed in Amendment 28.

If Amendment 28 is not approved by the Secretary of Commerce or if it is approved later in 2016 and scheduled for implementation in 2017, the commercial quota withheld from distribution would be returned to RS-IFQ shareholders in 2016. Under this scenario, **Alternative 2** would be expected to result in direct negative social effects stemming from changes to customary fishing and business practices and from the uncertainty that may arise from the timeline for returning withheld portions of the commercial ACL. The retention and subsequent return to RS-IFQ

shareholders a portion of the annual RS-IFQ allocation may affect RS-IFQ participants, particularly those with limited RS-IFQ shares, by changing when, and potentially from whom, they are able to obtain red snapper allocation. RS-IFQ participants planning to sell their annual allocation at a specific date could be precluded from completing the transaction, affecting the intended recipient's access to that allocation, as well. Although these effects cannot be quantified, it is expected that the longer RS-IFQ annual allocation is retained, the greater these effects would be.

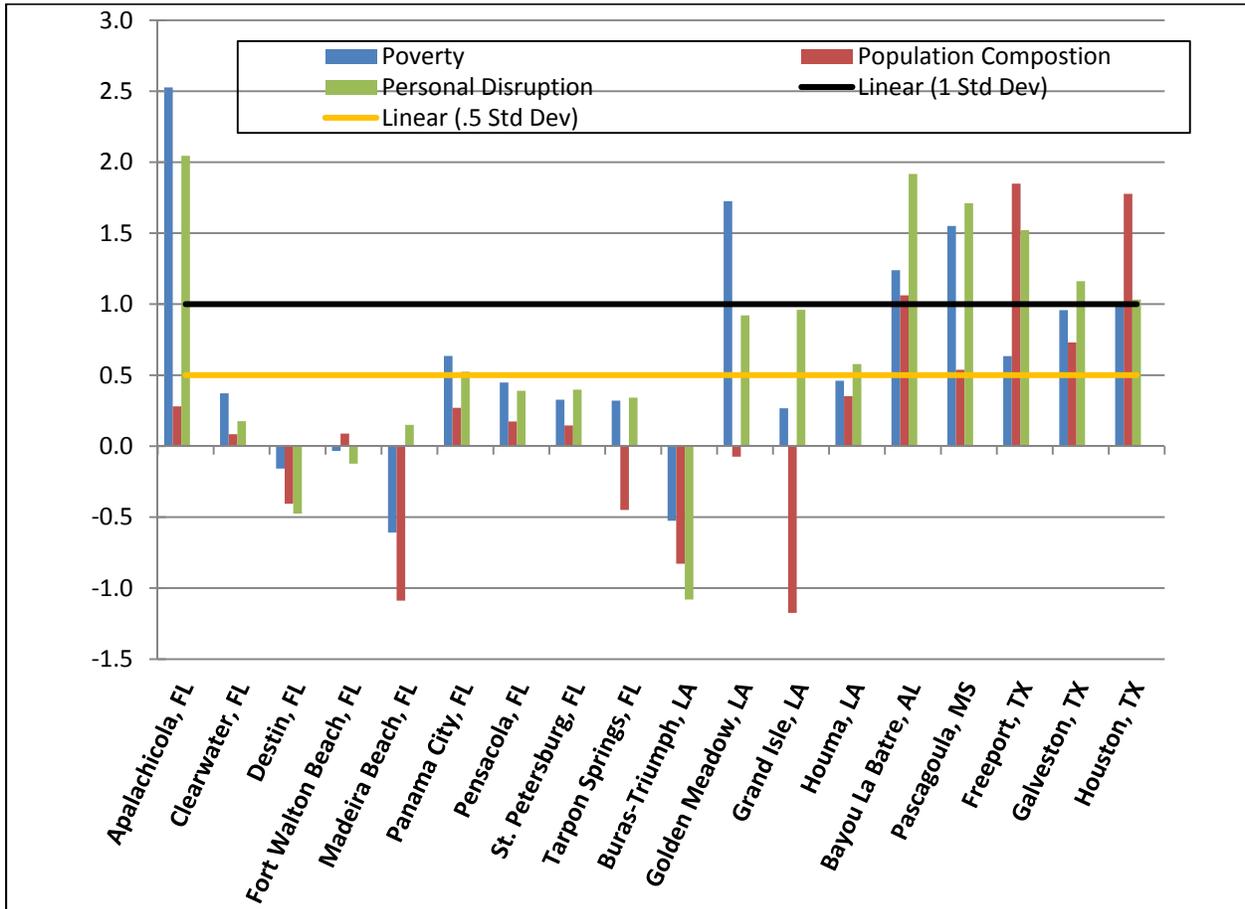
#### 4.4.1 Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider “the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories...” This executive order is generally referred to as environmental justice (EJ).

Commercial red snapper fishermen and associated businesses and communities along the coast are likely to be impacted by this proposed action. However, information on race, ethnicity, and income status for groups at the different participation levels and roles is not available. To identify potential areas of EJ concern, this analysis uses a suite of indices created to examine the social vulnerability of coastal communities (Jepson and Colburn 2013). 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. Communities that exceed the threshold for one or more of the indices would be expected to exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change. As noted in Section 4.4, additional social effects are not expected from this action beyond the effects discussed in Amendment 28, as this action enables the implementation of the action taken in Amendment 28 to occur in 2016.

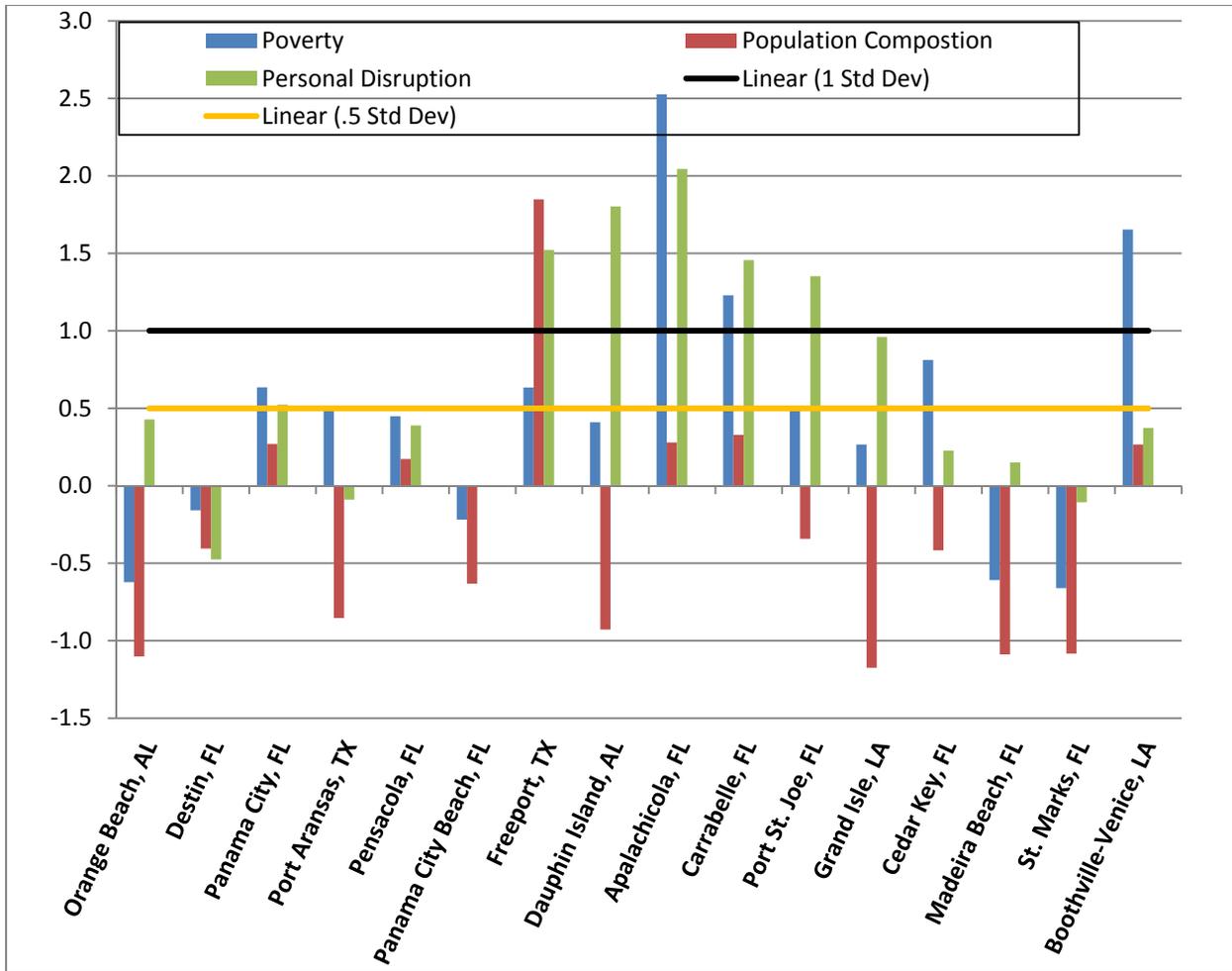
The commercial communities most engaged and reliant on red snapper fishing are identified in Figure 3.4.5, and Figure 4.4.1 provides each community's score for the three social vulnerability indices. The communities of Apalachicola and Panama City, Florida; Golden Meadow, Grand Isle, and Houma, Louisiana; Bayou La Batre, Alabama; Pascagoula, Mississippi; and Freeport, Galveston, and Houston, Texas exceed the threshold of ½ standard deviation above the mean for at least one of the social vulnerability indices (Figure 4.4.1). It would be expected that these communities may exhibit vulnerabilities to social or economic disruption because of regulatory change, and would be the communities most likely subject to EJ concerns, as described in Amendment 28. 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, Galveston, and Houston, Texas. Five communities exceed the threshold of ½ standard deviation for all three indices (Bayou La Batre, Alabama; Pascagoula, Mississippi; and Freeport, Galveston, and Houston, Texas). Social effects resulting from action taken in this plan amendment are likely to be greatest in these communities.



**Figure 4.4.1.1.** Social vulnerability indices for red snapper commercial fishing communities  
Source: Southeast Regional Office, social indicators database (2012).

Recreational red snapper fishermen and associated businesses and communities along the coast are expected to benefit from this proposed action. Thus, no EJ concerns are expected for participants in the recreational sector. Figure 4.4.1.2 provides the scores of the social vulnerability indices for the top recreational fishing communities identified in Figure 3.4.6. Communities that exceed the threshold for one or more indices would be expected to exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change, and greater vulnerability is suggested by exceeding the thresholds for multiple indices. However, regulatory change that would impact recreational participants in these communities is not expected.



**Figure 4.4.1.2.** Social vulnerability indices for recreational fishing communities. Source: Southeast Regional Office, social indicators database (2012).

## 4.5 Effects on the Administrative Environment

The withholding of commercial red snapper allocation would have direct effects on the administrative environment through additional rulemaking. Because **Alternative 1**, the no-action alternative, would not require rulemaking, it would have no effect on the administrative environment. The act of withholding a portion of the 2016 red snapper commercial quota, **Alternative 2**, is a one-time event, and thus these alternatives would have an equivalent burden to this environment through the minor direct administrative impacts associated with the rulemaking.

Although **Alternative 2** would increase the administrative burden, the effects are likely minimal. The National Marine Fisheries Service (NMFS) currently has a program and system in place to issue, transfer, and monitor Individual Fishing Quotas. Therefore, any additional administrative burden would be in adding these new requirements to the existing NMFS program and not requiring the development of a new program.

## 4.6 Cumulative Effects Analysis

As directed by the National Environmental Protection Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. NEPA defines a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 C.F.R. 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect is when the combined effects are greater than the sum of the individual effects. Cumulative effects on the biophysical environment, socio-economic environment, and administrative environments have been analyzed in Amendment 28 (GMFMC 2015) and are hereby incorporated by reference. The cumulative effects resulting from withholding part of the commercial quota (**Alternative 2**) should not have any additional cumulative effects to the physical and biological environments beyond those already addressed in Amendment 28. The cumulative effects from this action would be expected to result in direct economic and social effects stemming from potential modifications to customary fishing and business practices and from the uncertainty that may arise from the timeline for returning withheld portions of the commercial quota. Cumulative effects to the social environment from this action are not expected to result in additional social effects beyond the potential benefits to the recreational sector and negative impacts to the commercial sector as discussed in Amendment 28. Either the retention or subsequent return of shares to RS-IFQ participants may preclude some RS-IFQ participants, particularly those with limited RS-IFQ shares, from harvesting red snapper during periods of high demand, thereby resulting in revenue losses. RS-IFQ participants planning to sell their annual allocation at a specific date could be precluded from completing the transaction, potentially resulting in economic losses. Although these economic effects cannot be quantified, it is expected that the longer RS-IFQ annual allocations are retained by NMFS, the greater these effects are expected to be.

# CHAPTER 5. REGULATORY IMPACT REVIEW

[To be completed after the Council takes Final Action]

# CHAPTER 6. REGULATORY FLEXIBILITY ACT ANALYSIS

**[To be completed after the Council takes Final Action]**

## CHAPTER 7. LIST OF PREPARERS AND AGENCIES CONSULTED

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Peter Hood	Biologist	Reviewer	
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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.