

# Scoping Document for Reef Fish Amendment 32

To Set 2011 Red Grouper and Gag Annual Catch Limits and  
Establish a Gag Rebuilding Plan

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## ABBREVIATIONS USED IN THIS DOCUMENT

ABC	Acceptable biological catch
ACL	Annual catch limit
ACT	Annual catch target
F	Fishing mortality
GMFMC	Gulf of Mexico Fishery Management Council
GOMARS	Gulf of Mexico Angling Reporting System (industry proposal)
LAPP AP	Limited Access Privilege Program Advisory Panel
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSY	Maximum sustainable yield
NMFS	NOAA's National Marine Fisheries Service
OY	Optimum yield
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SOS	Save Our Sector (industry data collection and monitoring proposal)
SSB	Spawning stock biomass
SSC	Scientific and Statistical Committee

## 1.1 Background

Gag and red grouper are the two most abundant grouper species in the Gulf of Mexico. In 2008, these two species accounted for 93% of the recreational grouper landings reported by Marine Recreational Fisheries Statistics Survey (MRFSS), and 80% of commercial grouper landings in the Gulf (Personal communication from the National Marine Fisheries Service (NMFS), Fisheries Statistics Division, Silver Spring, MD). The commercial fishery accounts for the majority of red grouper landings, while the recreational fishery accounts for the majority of gag landings. Both of these groupers are protogynous hermaphrodites, meaning that they start life as females and change sex to males later in life.

In 2010, an individual fishing quota system for the commercial sector is scheduled to be implemented for grouper and tilefish. Under this system, percentages of the commercial red grouper and gag quotas will be allocated to commercial grouper fishermen who can then trade the percent shares among themselves of fish their shares, except that no fisherman may exceed his personal quota.

Management of the recreational fishery consists of minimum size limits, aggregate and species-specific bag limits, a closed season (February 1-March 31), and seasonal area closure of the Edges (i.e., January 1-April 30). In addition, all reef fish fishing is prohibited year round in two restricted fishing areas in the northwestern Gulf (Madison-Swanson and Steamboat Lumps), as well as the Tortugas Ecological Reserves off of the Florida Keys.

In 1997, a gag stock assessment concluded that gag, while not overfished, may be undergoing overfishing (Schirripa and Legault 1997, GMFMC 1998a). In response to the assessment, new regulations were implemented in 2000 that: 1) increased the gag commercial minimum size limit to 24 inches total length and the gag recreational minimum size limit to 22 inches total length; 2) established a February 15 through March 14 commercial closed season on harvest of gag, black and red grouper; and 3) established two restricted fishing areas (Madison-Swanson and Steamboat Lumps) that had habitat suitable for gag and other aggregate spawning reef fish. In 2006 and 2007, SEDAR 10 (2006) and a subsequent 2007 reanalysis with corrected dead discard estimates (SEDAR 2007a; SEFSC 2007) concluded that the gag stock was undergoing overfishing and had been since the 1970s.

Red grouper were declared overfished and placed under a rebuilding plan in 2004. The stock had been found to be overfished and undergoing overfishing in both a 1999 stock assessment (Schirripa and Legault 1999) and a subsequent 2002 assessment (NMFS 2002a). However, the 2002 assessment indicated that the stock was recovering faster than previously estimated, most likely due to a strong recruitment year class in 1997. Management measures implemented in 2004 as part of the rebuilding plan included a reduced aggregate commercial shallow-water grouper quota, a red grouper quota within the aggregate quota, and a recreational bag limit of two red grouper within the five fish aggregate grouper bag limit. In 2005, stepped commercial grouper trip limits (10,000, 7,500, and 5,500 pounds) were adopted for the commercial fishery, and the recreational red grouper bag limit was further reduced to 1 fish. For 2006 through 2009, a fixed 6,000 pound commercial grouper trip limit was adopted. In 2007, the SEDAR 12 assessment, confirmed that the red grouper stock was overfished in the 1990s, but estimated that the red grouper spawning stock had rebuilt to biomass at maximum sustainable yield ( $SSB_{MSY}$ )

starting in 1999, and that the 2005 stock status was close to its optimum yield spawning stock biomass level. Consequently, the red grouper rebuilding plan could be replaced with a management policy to maintain the stock at its optimum yield level.

In response to the SEDAR 10 and 12 findings for gag and red grouper, Amendment 30B implemented new regulations in 2009. These regulations reduced the gag recreational bag limit to 2 fish and the aggregate grouper bag limit to 4 fish, while increasing the red grouper bag limit to 2 fish. A commercial gag quota of 1.32 million pounds gutted weight was adopted representing a 41% decrease from the average landings during 2004-2006. At the same time, the commercial red grouper quota was increased from 4.98 to 5.75 million pounds representing a 15% increase to the commercial allocation level of long-term average optimum yield. The Edges seasonal area closure, January-April, was added to the existing Madison-Swanson and Steamboat Lumps seasonal closures to protect spawning aggregations of gag.

Amendment 30B also stated that, after completion of the next red grouper stock assessment or update, anticipated in 2009, the Council's intent was to set red grouper annual catch limits, at the equilibrium (i.e., long-term average) maximum sustainable yield or optimum yield level or the current year yield corresponding to the fishing mortality at maximum sustainable yield ( $F_{MSY}$ ) or fishing mortality at optimum yield ( $F_{OY}$ ), whichever is less<sup>1</sup>.

In 2009, new observer data indicated that sea turtle interactions with the bottom longline component of the reef fish fishery in the eastern Gulf of Mexico were higher than previously estimated. Until long-term measures could be developed, the commercial bottom longline component of the reef fish fishery was closed in depths shallower than 50 fathoms in the eastern Gulf by emergency rule from May 18-October 28, 2009, and in all depths once the deep-water grouper quota was filled. After review and potential implementation of Amendment 31 the bottom longline component of the reef fish fishery will re-open with the following new requirements: an endorsement to fish east of Cape San Blas, time area closure during the months of June-August from 35 fathoms shoreward for bottom longline gear, and limiting gear to 1,000 hooks per vessel, with 750 rigged for fishing or fished.

## 1.2 Purpose and Need

The Magnuson-Stevens Fishery Conservation and Management Act requires NOAA's National Marine Fisheries Service and regional fishery management councils to prevent overfishing, and achieve, on a continuing basis, the optimum yield from federally managed fish stocks. These mandates are intended to ensure fishery resources are managed for the greatest overall benefit to the nation, particularly with respect to providing food production and recreational opportunities, and protecting marine ecosystems. To further this goal, the Magnuson-Stevens Act requires fishery managers to specify through rebuilding plans their strategy for rebuilding overfished stocks to a sustainable level within a certain time frame, provide accountability measures to

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<sup>1</sup> In Amendment 30B the Council chose to set the annual catch limit based on maximum sustainable yield and annual catch target based on optimum yield. The upper level of acceptable biological catch = maximum sustainable yield. However, under the National Standard 1 guidelines, the acceptable biological catch will normally be less than maximum sustainable yield, and annual catch limit cannot exceed acceptable biological catch. In the remainder of this document, 30B will be interpreted to have set annual catch limit = acceptable biological catch.

minimize the risk of overharvest, to minimize bycatch and bycatch mortality to the extent practicable, and to ensure that management decision are based on the best available scientific information.

Commercial landings of red grouper and gag are given in Tables 1 and 2, and recreational landings are given in Tables 3 and 4. The 2009 stock assessment of the Gulf of Mexico gag stock (SEDAR 2009a) indicated the stock is overfished and undergoing overfishing. A large part of the decline was attributed to an episodic mortality event in 2005 (most likely associated with red tide) that resulted in an additional 18% of the gag stock being killed on top of the normal natural and fishing mortalities (personal communication, Brian Linton, SEFSC). The 2008 spawning stock biomass was estimated to be at just 47% of its minimum stock size threshold and the mean fishing mortality rate during 2005-2007 was estimated to be nearly 2.5 times higher than the maximum fishing mortality threshold. On August 11, 2009, the NMFS Regional Administrator notified the Council of his determination that the gag stock was both overfished and undergoing overfishing. Under the Magnuson-Stevens Act National Standard Guidelines, once a Council is notified of the stock's condition, a plan needs to be developed and implemented within two years of notification to end overfishing and rebuild the gag stock.

The 2009 update stock assessment of the red grouper stock in the Gulf of Mexico (SEDAR 2009b) indicated the stock continues to be neither overfished or undergoing overfishing. However, the stock has declined since 2005. As with gag, a large part of this decline was attributed to an episodic mortality event in 2005 (most likely associated with red tide), that resulted in a little over 20% of the red grouper stock being killed on top of the normal natural and fishing mortalities (personal communication, Clay Porch, SEFSC). The annual catch target (i.e., 7.57 million pounds) currently in effect exceeds the optimum yield level for 2010 (i.e., 4.91 million pounds) and the acceptable biological catch level set by the Scientific and Statistical Committee for 2010 (5.96 million pounds).

**Table 1. Commercial red grouper landings in pounds gutted weight.**

Year	Commercial Longline	Commercial Handline	Fish Trap*	Total
2005	3,326,160	1,454,300	630,560	5,411,020
2006	3,156,360	1,385,340	602,207	5,143,907
2007	2,072,720	1,586,390	23,763	3,682,873
2008	2,753,210	1,968,170	-	4,721,380

\* Fish traps were banned in February 2007

(Source: 2009 red grouper update assessment – SEDAR 2009b).

**Table 2. Commercial gag landings in pounds gutted weight.**

Year	Commercial Longline	Commercial Handline	Other	Total Landings	Dead Discards
2000	571,801	1,589,245	86,429	2,247,476	11,876
2001	946,629	2,052,522	99,866	3,099,017	38,283
2002	1,021,695	1,880,834	61,702	2,964,231	37,688
2003	1,094,008	1,435,412	65,133	2,594,553	35,222
2004	1,097,933	1,726,429	72,619	2,896,980	41,827
2005	871,726	1,535,458	68,958	2,476,141	35,936
2006	516,528	798,282	55,175	1,369,985	18,555
2007	475,295	741,954	44,931	1,262,181	12,592
2008	340,626	865,382	42,473	1,248,481	13,835

The "other" category is predominantly trawl in the early years (60-70s), trap in the middle years (80s), and spear in the later years (90s-00s).

(Source: personal communication, Brian Linton, Southeast Fisheries Science Center).

**Table 3. Recreational red grouper landings in pounds gutted weight.**

Year	Recreational Red Grouper Landings (pounds)
2000	2,107,720
2001	1,327,800
2002	1,611,130
2003	1,275,830
2004	3,037,020
2005	1,464,990
2006	925,923
2007	959,754
2008	860,986

(Source: 2009 red grouper update assessment) – SEDAR 2009b.

**Table 4. Recreational gag landings in pounds gutted weight.**

Year	Recreational Gag Landings (pounds)
2000	4,503,759
2001	3,710,284
2002	4,078,416
2003	3,434,862
2004	4,491,715
2005	3,513,119
2006	2,286,345
2007	2,231,784
2008	3,009,777

(Source: personal communication, Brian Linton, SEFSC).

The accountability measures implemented in Amendment 30B for red grouper and gag were established under the single quota system and do not reflect changes that will occur in the commercial fishery when the individual fishing quota system is implemented in 2010. In addition, the accountability measures only apply to a fixed set of years (2009-2011). They also do not include a provision in the National Standard 1 guidelines that, for stocks and stock complexes in rebuilding plans, the accountability measures should include overage adjustments that reduce the annual catch limits in the next fishing year by the full amount of the overages, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages.

In 2010 an individual fishing quota system will be implemented for the commercial grouper and tilefish fisheries (Amendment 29). To allow for flexibility and account for varying gag to red

grouper ratios across the Gulf of Mexico, at the beginning of each fishing year a percentage of the gag and red grouper shares will be designated as multi-use shares, valid for harvesting either red or gag grouper. Amendment 29 established that 4 percent of red grouper shares and 8 percent of gag shares would be converted to multi-use. However, under the reduced red grouper and gag annual catch limits expected to be implemented in this amendment, it is possible that the use of multi-use shares could result in commercial harvest of red grouper or gag exceeding its sector allocation. To prevent this from happening, adjustments need to be made to the provision for multi-use shares in the grouper individual fishing quota system.

The reduced gag catch limits under the initial years of the rebuilding plan will require substantial reductions in both commercial and recreational harvest. The commercial harvest can be reduced through an adjustment to the commercial quota, but the recreational sector has no quota. Recreational catch levels are managed primarily through a combination of bag limits, minimum size limits and closed seasons. A combination of management measures needs to be adopted that will achieve the needed reductions in recreational fishery with the least disruption to the fishery. Consideration also needs to be given to the impact of regulatory changes on discards and discard mortality.

Bycatch issues need to be addressed in both the commercial and recreational grouper fisheries. In 2011, there will be a large difference between the red grouper and gag commercial quotas, 3.73 million pounds vs. 0.32 million pounds, respectively, if quotas are set at optimum yield levels for red grouper and gag, or a ratio of approximately 12:1. Through July 2009, the ratio of red grouper to gag landings was 4:1. If commercial fishermen continue to catch gag in 2011 at the same ratio as in 2009, then two out of every three pounds of gag caught will have to be discarded due to insufficient IFQ shares. This could potentially amount to up to 640,000 pounds of which 67%, or 428,800 pounds, could be discarded dead. This means that there would be more discarded gag by weight than allowed under the gag quota needed to end overfishing and rebuild the gag stock. Thus, gag bycatch must either be taken into account in managing the gag and red grouper quotas, or gag bycatch needs to be reduced. One way to reduce gag bycatch could be through reauthorization of the use of fish traps, which were phased out in the Gulf of Mexico in 2007. Grouper fish traps were used primarily to target red grouper, and the proportion of gag caught was relatively small (see Table 2 – Other category includes traps). New trap designs have been developed that may be even more selective. However, these new trap designs need to be extensively tested, and the issues that led to the banning of traps in the 1990s need to be addressed before reauthorization is considered. The recreational fishery has a higher survival rate of released fish on average, but larger numbers of fish are discarded since much of the fishery occurs in shallower water where smaller fish are more common. Strategies such as a “keep first fish caught” approach could reduce regulatory discards, but could also have negative consequences on spawning potential. New ideas need to be developed for ways to reduce discard mortality in the recreational grouper fishery.

Although individual anglers usually harvest a small number of fish per trip, collectively these fishing trips can harvest a significant portion of the allowable harvest (e.g., the recreational fishery landed 59% of gag from 2001 to 2005). However, it is difficult to monitor the recreational landings because of the sheer volume of anglers and the diversity of landing locations. As a result, the survey methods employed to monitor the recreational sector has been criticized and is currently undergoing modifications to improve the quality of the data. The Council is evaluating methods such as fish tags or a fish stamp, and several proposals have been

directed towards the Council to improve the monitoring and management of the recreational fishery. These recommendations could improve the quality and timeliness of information needed to assess the different reef fish fisheries.

Several seasonal area closures have been implemented over the past decade to protect a portion of the spawning aggregations of gag and other fish (Madison-Swanson, Steamboat Lumps, the Edges). It may be possible, though strategic use of seasonal area closures, to direct fishing away from concentrations of gag and toward red grouper or other targeted stocks, thereby reducing gag harvest while avoiding increased bycatch. To be successful, input from fishermen as to the appropriate areas and seasons to meet this objective is needed.

This amendment proposes to reduce the harvest of gag in order to end overfishing and allow the stock to recover to  $B_{MSY}$  and reduce the harvest of red grouper consistent with harvesting the stock at optimum yield. These landings reductions will reduce fishing mortality to at or below  $F_{OY}$  levels. In addition, this amendment proposes to revise annual catch limits in line with the stock assessment updates and accountability measures within the National Standard 1 Guidelines. Reductions in the gag and red grouper fisheries will be achieved through quota reductions in the commercial fishery and through a combination of bag limits, minimum size limits, and closed seasons in the recreational fishery. Further, this amendment proposes to adopt measures to minimize gag bycatch such that landings for the shallow water grouper harvest can be maximized consistent with the Magnuson-Stevens Act. Finally, this amendment proposes to improve data collection for the recreational component of the reef fish fishery to improve this sector's accountability.

## 1.3 Potential Actions for Scoping

### 1.3.1 Rebuilding Plan for Gag

Section 304 of the Magnuson-Stevens Act states that for a fishery that is overfished, the rebuilding plan shall—

- (A) specify a time period for rebuilding the fishery that shall—
  - (i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock of fish within the marine ecosystem; and
  - (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise;
- (B) allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery; and
- (C) for fisheries managed under an international agreement, reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

The shortest possible time in which the gag stock can rebuild ( $T_{\min}$ ) is 5 years in the absence of all fishing mortality including bycatch mortality. The maximum time ( $T_{\max}$ ) is 10 years. The proposed annual catch limits are based on yields that will rebuild the stock in 10 years. The proposed annual catch targets are yields under the Council's current definition of optimum yield and will produce a faster rebuilding, 7 years<sup>2</sup>.

Amendment 30B established an interim allocation of the gag stock, based on the average share during the years 1986 through 2005, of 39% commercial, 61% recreational. This document includes a consideration of further sub-dividing the recreational allocation into a for-hire (charter boat and headboat) allocation and a private recreational allocation.

The specification of a gag rebuilding plan therefore includes:

- Rebuild the gag stock to a biomass level capable of producing maximum sustainable yield on a continuing basis in 10 years or less.
- Continue to allocate the gag resource 39% commercial, 61% recreational, and consider a possible subdivision of the recreational allocation between the for-hire and private recreational sectors.

#### *Questions to Consider:*

- 1. Should the rebuilding time and allocations described above be adopted, or should a different rebuilding time or allocation be used? If a different rebuilding time or allocation is used, what is the basis for making such a change?**

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<sup>2</sup> Personal communication from Brian Linton, Southeast Fisheries Science Center, Miami.

## 1.3.2 Annual Catch Limits and Annual Catch Targets

### 1.3.2.1 Red Grouper

The current and proposed red grouper annual catch limits and annual catch targets are shown in Tables 5 and 6. Catch limits are based on fishing at the acceptable biological catch levels, and catch targets are based on fishing at the optimum yield level. Sector allocations are based on the Amendment 30B red grouper allocation of 76% commercial and 24% recreational. The recreational limits and targets are adjusted to a moving average and will be compared to a moving average of annual landings to determine if targets or limits have been exceeded. The purpose of this is to smooth out year-to-year fluctuations in recreational catch and reduce the likelihood of triggering accountability measures unnecessarily. Numbers are in millions of pounds gutted weight.

The Scientific and Statistical Committee only recommended an acceptable biological catch for red grouper for 2010, and requested that the projection be re-analyzed once the final 2009 landings are available (in Spring 2010). The tables below contain placeholders for those future projections, which will be available prior to the Council taking final action.

**Table 5. Current and proposed annual catch limits for red grouper. Based on protocols established in Amendment 30B, the annual catch limit is set equal to the acceptable biological catch. For the recreational sector, the annual catch limit is adjusted to moving average values and is compared to a moving average of landings. The number in parentheses indicates how many years are averaged together.**

	Stock ACL	Commercial ACL	Recreational ACL status quo moving average method	Recreational ACL revised moving average method	Recreational ACL single year method
			Current		
2009	7.72 mp	5.87 mp	1.85 mp (1)		1.85 mp
			Proposed		
2010	5.96 mp	4.53 mp	1.64 mp (2)*	1.43 mp (1)	1.43 mp
2011	**	**	** (3)	** (2)	**
2012	**	**		** (3)	**
2013	**	**		** (3)	**
2014	**	**		** (3)	**

\* Under the Amendment 30B ACL moving average strategy, in the initial sequence, the recreational ACL is based on the single year ACL in 2009, a 2-year average (of 2009-2010) in 2010, and a 3-year moving average from 2011 onward. However, with a declining ACL, the sum of the sector ACLs would exceed the acceptable biological catch (ABC) for 2010 and 2011. Therefore, the revised moving average method restarts the initial sequence in 2010.

\*\* The Scientific and Statistical Committee did not recommend ABCs for red grouper beyond 2010 because they felt that the assumption that the red grouper annual catch limit for 2009 would be filled was incorrect. The SSC asked that NMFS reevaluate yield streams in 2010 once the final 2009 landings data are available. At that time the SSC will recommend ABCs for 2011 and beyond.

**Table 6. Current and proposed annual catch targets for red grouper. Based on protocols established in Amendment 30B the annual catch target is set equal to optimum yield. For the recreational sector, the annual catch target is adjusted to a moving average. The number in parentheses indicates how many years are averaged together.**

	Stock ACT	Commercial ACT	Recreational ACT status quo moving average method	Recreational ACT revised moving average method	Recreational ACT single year method
		Current			
2009	7.57 mp	5.75 mp	1.82 mp (1)		1.82 mp
		Proposed			
2010	4.91 mp	3.73 mp	1.50 mp (2)*	1.18 mp (1)	1.18 mp
2011	**	**	** (3)	** (2)	**
2012	**	**		** (3)	**
2013	**	**		** (3)	**
2014	**	**		** (3)	**

\* Under the Amendment 30B ACT moving average strategy, in the initial sequence, the recreational ACT is based on the single year ACT in 2009, a 2-year average (of 2009-2010) in 2010, and a 3-year moving average from 2011 onward. However, with a declining ACT, the revised moving average method restarts the initial sequence in 2010.

### 1.3.2.2 Gag

The current and proposed gag annual catch limits and annual catch targets are shown in Tables 7 and 8. Sector allocations are based on the Amendment 30B gag allocation of 39% commercial and 61% recreational. As with red grouper, the gag recreational limits and targets are adjusted to a moving average and will be compared to a moving average of annual landings to determine if targets or limits have been exceeded.

As with red grouper, the Scientific and Statistical Committee only recommended an acceptable biological catch for gag for 2010, and requested that the projection be re-analyzed once the final 2009 landings are available (in Spring 2010). However, since gag require a rebuilding plan, the SSC recommended acceptable biological catches for 2011-2014 be based on the current analyses be used if the reanalysis cannot be done in time.

**Table 7. Current and proposed annual catch limits for gag. Based on protocols established in Amendment 30B, the annual catch limit is set equal to acceptable biological. For the recreational sector, the annual catch limit is adjusted to moving average values and is compared to a moving average of landings. The number in parentheses indicates how many years are averaged together.**

	Stock ACL	Commercial ACL	Recreational ACL status quo moving average method	Recreational ACL revised moving average method	Recreational ACL single year method
	Current				
2009	4.25 mp	1.66 mp	2.59 mp (1)		2.59 mp
2010	4.39 mp	1.71 mp	2.64 mp (2)		2.68 mp
2011	4.50 mp	1.76 mp	2.67 mp (3)		2.75 mp
	Proposed				
2010	0.82 mp	0.32 mp	1.98 mp * (3)	0.50 mp (1)	0.50 mp
2011	1.20 mp**	0.47 mp**	1.33 mp * (3)	0.615 mp (2)	0.73 mp
2012	1.71 mp**	0.67 mp**	0.76 mp (3)**		1.04 mp**
2013	2.23 mp**	0.87 mp**	1.04 mp (3)**		1.36 mp**
2014	2.68 mp**	1.05 mp**	1.34 mp (3)**		1.63 mp**

\* Under the Amendment 30B ACL moving average strategy, in the initial sequence, the recreational ACL is based on the single year ACL in 2009, a 2-year average (of 2009-2010) in 2010, and a 3-year moving average from 2011 onward. However, with a declining ACL, the sum of the sector ACLs would exceed the ABC for 2011 and 2012. Therefore, the revised moving average method restarts the initial sequence in 2010.

\*\* The Scientific and Statistical Committee's recommendations for ABCs for gag beyond 2010 were provisional recommendations because the SSC felt that the assumption that the gag annual catch limit for 2009 would be filled was incorrect. The SSC asked that NMFS reevaluate yield streams in 2010 once the final 2009 landings data are available, and that the provisional recommendations be used only if the reanalysis is not available in time to incorporate into the gag rebuilding plan.

**Table 8. Current and proposed annual catch targets for gag. Based on protocols established in Amendment 30B the annual catch target is set equal to optimum yield. For the recreational sector, the annual catch target is adjusted to a moving average. The number in parentheses indicates how many years are averaged together.**

	Stock ACT	Commercial ACT	Recreational ACT status quo moving average method	Recreational ACT revised moving average method	Recreational ACT single year method
			Current Scheduled Increases		
2009	3.38 mp	1.32 mp	2.06 mp (1)		2.06 mp
2010	3.62 mp	1.41 mp	2.14 mp (2)		2.21 mp
2011	3.82 mp	1.49 mp	2.20 mp (3)		2.33 mp
			Proposed		
2010	0.67 mp	0.26 mp	1.65 mp* (3)	0.41 mp (1)	0.41 mp
2011	1.01 mp	0.39 mp	1.12 mp* (3)	0.515 mp (2)	0.62 mp
2012	1.48 mp	0.58 mp	0.64 mp (3)		0.90 mp
2013	1.97 mp	0.77 mp	0.91 mp (3)		1.20 mp
2014	2.41 mp	0.94 mp	1.19 mp (3)		1.47 mp

\* Under the Amendment 30B ACT moving average strategy, in the initial sequence, the recreational ACT is based on the single year ACT in 2009, a 2-year average (of 2009-2010) in 2010, and a 3-year moving average from 2011 onward. However, with a declining ACT, the revised moving average method restarts the initial sequence in 2010.

Under the current quota regulations in 50 CFR 622.42(a)(1)(iii)(B), the gag commercial quota (along with recreational allocation and total allowable catch) is scheduled to increase in 2010 and 2011, as shown in Tables 7 and 8. This amendment proposes to revise that schedule beginning in 2011.

***Questions to Consider:***

- 1. Should annual catch limits and annual catch targets be set as shown in Tables 5 and 6 for red grouper and in Tables 7 and 8 for gag (using the revised 3-year moving average for the recreational limits and targets)?**
- 2. Should some other method of setting annual catch limit and annual catch target be used for red grouper and/or gag?**
- 3. Should both annual catch limit and annual catch target be used, or only annual catch limit (in which case it should be set lower than the acceptable biological catch to take into account management uncertainty)?**

### ***1.3.3 Gag and Red Grouper Accountability Measures***

With respect to overfished fisheries, the National Standard 1 Guidelines state:

For stocks and stock complexes in rebuilding plans, the accountability measures should include overage adjustments that reduce the annual catch limits in the next fishing year by the full amount of the overages, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages.

The accountability measures for gag and red grouper currently have a number of issues:

1. The accountability measures do not currently contain the overage adjustment for overfished stocks recommended by the National Standard 1 Guidelines.
2. The accountability measures refer to a table of annual catch limits in Amendment 30B that only provides annual catch limits for 2009-2011 for gag, red grouper, and the shallow-water grouper aggregate.
3. The commercial accountability measure applies to a single quota system, not the individual fishing quota (IFQ) system scheduled to be implemented in 2010.

Under an IFQ system, the IFQ shares serve as an accountability measure and are expected to prevent the commercial annual catch limit from being exceeded. However, in the event that overages occur Amendment 29 revised the accountability measures for the commercial sector, but did not implement a payback provision for overfished stocks. The following changes would implement the payback adjustment for the gag stock for both commercial and recreational fisheries, and remove the limitation on years covered by the accountability measures. Changes from the Amendment 29 commercial accountability measures are indicated in italics.

## Proposed Accountability Measures:

### Commercial fishery:

- If shallow-water grouper commercial landings exceed the applicable ACL as specified in this paragraph (a)(3)(i), the Assistant Administrator for Fisheries will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to maintain the shallow-water grouper commercial quota for that following year at the level of the prior year's quota *unless the quota is scheduled to be reduced.*
- If red grouper commercial landings exceed the applicable ACL as specified in this paragraph (a)(5)(i), the Assistant Administrator for Fisheries will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to maintain the shallow-water grouper commercial quota for that following year at the level of the prior year's quota *unless the quota is scheduled to be reduced.*
- If gag commercial landings exceed the applicable ACL as specified in this paragraph (a)(4)(i), the Assistant Administrator for Fisheries will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, *to reduce the commercial gag quota by the full amount of the overage in the following fishing year.*

Recreational fishery: For groupers other than gag, if recreational landings, as estimated by the Southeast Fisheries Science Center following the conclusion of the fishing year, exceed the annual catch limit specified for the fishing year, then the Assistant Administrator for Fisheries will file a notification maintaining the prior year annual catch limit and annual catch target, unless the annual catch limit and annual catch target are scheduled to be reduced, for the stock that exceeded annual catch limit. While gag are under a rebuilding plan, if gag recreational landings, as estimated by the Southeast Fisheries Science Center following the conclusion of the fishing year, exceed the gag annual catch limit specified for the fishing year, then the Assistant Administrator for Fisheries will file a notification reducing the recreational gag annual catch limit and annual catch target by the full amount of the overage from the scheduled annual catch limit and annual catch target in the following fishing year. In addition, the notification will reduce the length of the recreational shallow-water grouper fishing season in the following year by the amount necessary to ensure recreational gag and red grouper landings do not exceed the recreational annual catch targets for that fishing year.

### *Questions to Consider:*

- 1. Should the gag, red grouper, and shallow-water grouper accountability measures be revised as proposed?**
- 2. Should some other revision to the accountability measures be made?**

### ***1.3.4 Adjustments to the multi-use shares in the commercial grouper and tilefish individual fishing quota system***

In 2010 an individual fishing quota system will be implemented for the commercial grouper and tilefish fisheries (Amendment 29). Under the system, each qualifying fisherman will be allocated IFQ shares based on historical participation in the fishery. To allow for flexibility and account for varying gag to red grouper ratios across the Gulf of Mexico, at the beginning of each fishing year a percentage of the gag and red grouper shares will be designated as multi-use shares, valid for harvesting either red or gag grouper. Amendment 29 established that 4 percent of red grouper shares and 8 percent of gag shares would be converted to multi-use. However, under the reduced red grouper and gag annual catch limits expected to be implemented in this amendment, it is possible that the use of multi-use shares could result in commercial harvest of red grouper or gag exceeding its sector allocation. To prevent this from happening, adjustments need to be made to the provision for multi-use shares in the grouper individual fishing quota system.

#### ***Questions to Consider:***

- 1. Should conversion to multi-use shares be eliminated for red grouper shares? Gag shares? Both?**
- 2. Should conversion to multi-use shares be continued, but at a reduced percentage (reduced to what percentage) for red grouper shares? Gag shares? Both?**
- 3. Should a mechanism to provide for periodic adjustments to the percentage of multi-use shares based on the relative gag and red grouper catch levels be implemented?**

### ***1.3.5 Recreational Bag Limits, Size Limits, and Closed Seasons for Gag and Red Grouper***

The 2009 red grouper and gag update assessments (SEDAR 2009a,b) indicate that recreational harvest of red grouper will need to be set at approximately 1.43 million pounds in 2010 to maintain optimum yield (Table 5), and recreational harvest of gag at approximately 0.50 million pounds in the initial year of a rebuilding plan (Table 7). These harvest levels are based on analyses of catches through 2008, but will be reevaluated once the final harvest estimates for 2009 are available, and the initial year for any changes will likely be 2011 rather than 2010.

Red grouper recreational landings averaged 0.92 million pounds during 2006-2008 (Table 3). The recreational management measures implemented for red grouper in 2009 under Amendment 30B (increase red grouper bag limit from 1 to 2 fish, reduce aggregate grouper bag limit from 5 to 4, and extend winter closed season on shallow-water grouper to February 1 through March 31) are expected to increase recreational red grouper landings by 17% to 1.07 million pounds. Since the projected landings, even with the increase, are less than the recreational catch limit being considered, no new restrictions on red grouper harvest are anticipated.

Gag recreational landings averaged 2.51 million pounds during 2006-2008 (Table 4), which would require a reduction of 71% to 80% to reach the 2010-2011 catch levels being considered. The recreational management measures implemented for gag in 2009 under Amendment 30B (set a gag bag limit of 2 fish within the aggregate bag limit, reduce aggregate grouper bag limit from 5 to 4, and extend winter closed season on shallow-water grouper to February 1 through March 31) were expected to reduce recreational gag landings by 26%. However, preliminary landings of gag on 2009 for MRFSS Waves 1-4 indicate a 41% reduction from a similar period during 2006-2008. While this exceeds the reductions that were projected, additional reductions will be needed under the gag rebuilding program.

Tables 9 – 11 show analyses from Amendment 30B on reductions in harvest from bag limit or size limit changes, plus a breakdown of times of year when gag and red grouper are caught recreationally. These analyses are for single changes only. When combinations of bag limit, size limit and closed season changes are considered, interactions between the management measures need to be taken into account. Analyses are ongoing for combinations of bag limits, closed seasons, and minimum size limits that will achieve the harvest levels needed.

**Table 9. Percent reductions in gag harvest for various bag limits. Gag bag limit analyses based on catch rates during 2003-2005. When release mortality equals zero, rel = 0%, when release mortality equals 20% then rel = 20%.**

Bag Limit	% reduction gag	
	rel = 0%	rel = 20%
5	0.0	0.0
4	1.8	1.4
3	5.3	4.2
2	13.5	10.8
1	32.8	26.3

**Table 10. Reductions in gag harvest associated with various recreational minimum size limits and release mortality rates (Source: Amendment 30B)**

Size Limit	Percent Reduction	
	rel = 0.0	rel = 0.2
22	0.0	0.0
23	10.4	8.3
24	24.4	19.5
25	36.5	29.2
26	47.7	38.1

**Table 11. Percent of recreational harvest of gag and red grouper by month (Source: Amendment 30B)**

Month	Percent Landings	
	Gag	Red Grouper
Jan	6.7%	3.4%
Feb	6.1%	3.4%
Mar	10.5%	7.1%
Apr	10.2%	6.9%
May	10.2%	12.4%
Jun	9.8%	12.5%
Jul	7.0%	15.8%
Aug	6.9%	15.8%
Sep	7.6%	7.0%
Oct	8.0%	7.2%
Nov	8.4%	4.2%
Dec	8.6%	4.2%

***Questions to Consider:***

1. If a choice needs to be made, which is the higher priority, maintaining the current bag limit (at the cost of a longer closed season) or keeping the recreational season open as long as possible (at the cost of a reduced bag limit)? Should the Council put more emphasis on longer closed seasons, smaller bag limits, or larger size limits when evaluating combinations of management measures to rebuild the gag stock?
2. If a longer closed season is needed, are there certain months that are more important to fishers to keep open?
3. What management measures do you feel would be most effective in reducing gag harvest while minimizing discard mortality (or keeping an increase in discard mortality as small as possible)?

### **1.3.6 Bycatch Issues**

#### **1.3.6.1 Commercial Bycatch**

The SEDAR 10 assessment estimated that the average release mortality rate for gag in the commercial fishery was 67%, but the magnitude of commercial discards since 2000, primarily due to the size limit, was estimated to be a small fraction of total removals, about 1.3% of the total commercial removals of gag and 2.8% of the total dead discards by weight (Table 12). A major concern is bycatch and bycatch mortality of gag while fishermen target red grouper, due to the large discrepancy expected between the red grouper and gag quotas.

In 2011, there will be a large difference between the red grouper and gag quotas, 3.73 million pounds vs. 0.32 million pounds respectively if quotas are set at optimum yield for red grouper and gag rebuilding levels, or a ratio of approximately 12:1. Through July 2009, the ratio of red grouper to gag landings was 4:1. If commercial fishermen continue to catch gag in 2011 at the same ratio as in 2009, then two out of every three pounds of gag caught will have to be discarded due to insufficient IFQ shares. This could potentially amount to up to 640,000 pounds of which 67%, or 428,800 pounds, could be discarded dead.

The primary focus of any additional commercial management measures will need to be on decreasing gag bycatch mortality by reducing the number of gag caught. Real-time monitoring of bycatch through a partial observer program is unlikely to be feasible because it takes approximately six months to expand observer data into bycatch estimates. One hundred percent observer coverage would negate the need to expand the data, but would be economically unfeasible. Possible approaches may include:

- Time and area closures, discussed later in this document
- Electronic monitoring/video monitoring
- Set aside all or some quota for bycatch
- Reduce size limits

#### ***Questions to Consider:***

- 1. What innovative ways can be adopted that will reduce bycatch of gag while allowing red grouper quotas to be filled?**
- 2. What other methods to reduce or prevent gag bycatch could be considered?**

### **1.3.6.2 Consideration of Fish Traps as Allowable Gear**

Fish traps were placed under a moratorium in 1994, and then under a ten year phase-out from 1997 to 2007. Since February 2007, fish traps have been a prohibited gear in federal waters of the Gulf of Mexico. As a result of recent testimony by commercial fishers, the Council has decided to reconsider the use of fish traps as allowable gear in the reef fish fishery. Fishers suggested during testimony that fewer gag are caught in fish traps, reducing bycatch of a fish currently in an overfished status; while still targeting red grouper.

Increased selectivity of traps has been documented in observer programs (NMFS 1995) and scientific studies (Burns 2009). However, the Council's rationale for phasing out fish traps included lack of compliance with fish trap rules, incidental catch of non-targeted species (particularly tropical marine species in south Florida), intensified unreported effort and non-selectivity from illegal fishing, and long-term ghost fishing from abandoned or lost traps with non-functioning escape panels (GMFMC 1996). All of these issues would need to be addressed before reauthorization of the gear.

When fish traps were an allowable gear, numerous specifications were required including: mesh size, escape windows, panel or access doors with a funnel, the area of the opening covered by each panel or access door had to be of a particular size, the hinges and fasteners of each panel or access door must be constructed of degradable materials such as untreated jute string, a magnesium alloy time float releases (pop-up devices) or similar magnesium alloy fasteners to mark the traps, plus marking and tending requirements. International studies in other trap fisheries suggest that if design modifications such as mesh size, escape panels, trap volume, bait type, funnel entrances, soak time, and ghost fishing are modified, bycatch of non-targeted reef fish could potentially be reduced (Sheaves 1995; Stewart and Ferrell 2002; Stewart 2007).

#### ***Questions to Consider:***

- 1. If fish traps are reauthorized as allowable gear who should be eligible to use them, individuals with an existing commercial reef fish permit and:
  - a) reef fish longline endorsement holders;**
  - b) former longline fishermen that do not qualify for an endorsement;**
  - c) former fish trap endorsement holders?****
- 2. If fish traps are reauthorized as allowable gear how and when should they be used to protect tropical marine fish and reduce conflicts with user groups by:
  - a) depth restrictions;**
  - b) season restrictions;**
  - c) area (e.g., restricted use south of the 25°N latitude to protect tropical marine fish);**
  - d) Combination of these restrictions?****
- 3. If fish traps are reauthorized as allowable gear, should restrictions be placed on:
  - a) number of allowable traps;**
  - b) trap volume;**
  - c) soak time;**
  - d) mesh size;**
  - e) combination of these restrictions?****

### 1.3.6.3 Recreational Bycatch - Keep the first gag caught (i.e., regardless of size)

Much of the recreational fishery occurs in shallower water than commercial fishing, where smaller fish are caught and released due to minimum size limits. Although the survival of fish released from shallower water is higher, the sheer number of fish caught and released results in a high discard mortality for the recreational sector compared to the commercial sector (Table 12).

**Table 12. Recreational gag landings in pounds gutted weight.**

Year	Recreational Gag Landings (pounds)	Recreational Gag Dead Discards (pounds)	Commercial Gag Landings (pounds)	Commercial Gag Dead Discards (pounds)
2000	4,503,759	864,596	2,247,476	11,876
2001	3,710,284	1,291,268	3,099,017	38,283
2002	4,078,416	1,454,607	2,964,231	37,687
2003	3,434,862	2,322,987	2,594,553	35,221
2004	4,491,715	3,009,853	2,896,980	41,827
2005	3,513,119	1,688,677	2,476,141	35,936
2006	2,286,345	1,850,355	1,369,985	18,555
2007	2,231,784	2,652,713	1,262,181	12,592
2008	3,009,777	3,734,689	1,248,481	13,835

(Source: personal communication, Brian Linton, SEFSC).

One possible strategy to reduce recreational dead discards would be to adopt a “first fish caught” policy, i.e., require gag to be kept regardless of size until the bag limit is filled. This strategy would reduce bycatch mortality by converting the dead discards to retained landings. However, in so doing, a large number of small immature fish that could have survived catch-and-release will be converted to retained landings along with the dead discards. The stock assessment estimated an average release mortality rate of 20% in the recreational fishery, meaning that 80% of the undersized fish kept under a keep first fish caught strategy are fish that would have survived under a minimum size limit strategy. This would have a negative impact on spawning potential and could slow the recovery of the gag stock or result in a reduced annual catch limit. Furthermore, high grading (i.e., throwing smaller fish over once larger fish are landed) could occur, likely negating some of the potential gains in reducing bycatch. Finally, many more fishermen would fill their bag limits, which could lead to the recreational allocation being filled in a shorter time period even with a smaller average size of retained fish.

As part of the scoping process, input from the public is sought on this or other ideas for reducing dead discards in the recreational fishery.

#### *Questions to Consider:*

1. **Should a keep first fish caught strategy be implemented for gag? For red grouper?**
2. **If a keep first fish caught strategy is implemented, what can be done to prevent the recreational season from being shortened due to an increased landed catch rate?**
3. **What, if anything, can be done to prevent or reduce high grading?**
4. **Are there other suggestions for ways to reduce dead discards in the recreational fishery?**

### **1.3.7 Data Collection and Monitoring Programs**

(See also section on Public Proposed Initiatives to Improve Data Collection)

#### **1.3.7.1 Fish tag program**

Fish tag programs have been used in recreational fisheries on the west coast and mid-Atlantic to collect data on recreational harvest. As a method to limit harvest, this strategy has only been used in limited cases such as the Florida (and other states) tarpon tag program, where the price of the tag as well as availability serves to constrain harvest. As a type of permit, NMFS would only be allowed to collect its administrative costs if issuing tags.

A number of issues would need to be resolved before a fish tag system could be implemented. For example, how would tags be allocated and distributed? Would they be distributed directly from NMFS or via a third party such as tackle shops or charterboat operators? Would they be physical tags or would they be electronic permits to harvest a certain number of fish (eTags) similar to IFQ shares in some commercial fisheries? Would there be limits on how many tags could be obtained or possessed at any given time? Because of these and other issues involved with establishing a fish tag system, this action may be better examined by the newly formed Limited Access Privilege Program Advisory Panel (LAPP AP).

#### ***Questions to Consider:***

- 1. Should the Council evaluate possible implementation of a fish tag program for the recreational gag fishery? For the red grouper fishery?**
- 2. How would fish tags be allocated and enforced?**
- 3. Should a fish tag program be used for monitoring purposes only, or as a means of limiting effort as well?**

#### **1.3.7.2 Fish stamp program**

Fish stamps are permits to recreationally harvest a specific species or species group, e.g., the Florida snook stamp. At the state level they are issued as endorsements to a recreational fishing license. Since there is no federal recreational saltwater license, grouper stamps would be issued as stand-alone permits. The primary benefit of a grouper stamp would be to define the universe of grouper fishermen to improve data collection. If issued only in a limited number, grouper stamps could also be used as a form of effort limitation to control harvest rates. Separate grouper stamp programs could be set up for the for-hire fisheries and private recreational fishermen, or a single program could be established with for-hire operators required to hold a sufficient number of grouper stamps based on the number of customers who they take fishing on any given trip. Transferability of permits would need to be considered if grouper stamps were issued as a limited entry tool. As with fish tags NMFS would only collect its administrative costs.

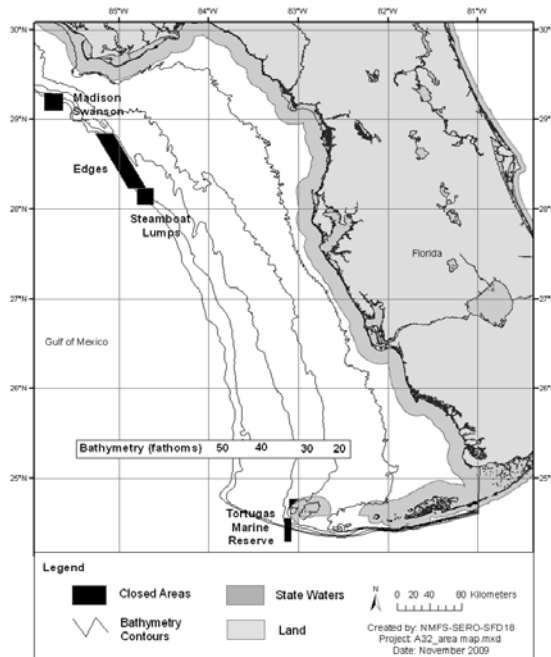
#### ***Questions to Consider:***

- 1. Should the Council further evaluate possible implementation of a grouper stamp program for the recreational grouper fishery?**
- 2. Should the number of grouper stamps be open-ended and used for data collection only, or should grouper stamps be issued in limited numbers to control grouper fishing effort?**
- 3. If issued in limited numbers, should grouper stamps be transferable?**

### ***1.3.8 Time and Area Closures***

The main objective of time and area closures in Amendment 30B was to protect spawning aggregations of gag and to protect a portion of the male gag population particularly vulnerable to fishing during spawning (Coleman et al. 1996; Koenig et al. 1996; GMFMC 2008a). In addition to the Madison-Swanson and Steamboat Lumps year round closure to fishing, the Edges was also closed January 1-April 30 to all fishing to protect spawning aggregations of gag (Figure 2). There are various uses for marine protected areas and many opinions on their purpose and need as a management tool. One assumption about effective marine protected areas requires that closed areas are of sufficient size to protect enough individuals to maintain genetic diversity and maintain the species population throughout the stock's range. The Ecosystem Modeling Workshop (GMFMC 2008b) found the optimal area for a marine reserve was not a single area, but a network of 16 cross-shelf marine protected areas covering 24% of all available red snapper habitat.

In a review of marine protected areas as a management tool by Shipp (2003), he suggested that an area protected from all or some human activity was not effective for a majority of marine species due to their mobility in and out of the closed areas. However, marine reserves are beneficial for protecting spawning, spawning aggregations, and essential fish habitat used as nursery areas (Shipp 2003; Koenig et al. 2000; National Research Council 2001). Therefore, due to the overfished status of gag and the need to protect the spawning aggregations from fishing pressure as well as reduce bycatch of gag while targeting red grouper, it is plausible that certain areas restricted to fishing during the spawning season may be beneficial for rebuilding the Gulf of Mexico gag stock. Some of these areas might include the Extended Madison-Swanson area which had high densities of gag. It is a smaller area (approximately 70 square nautical miles) compared to the other areas that are currently closed, but was documented with as high or higher gag densities as the Edges (Harter and David 2009). In addition, red grouper densities were not significantly different among these protected areas, so closing these areas could reduce bycatch of gag due to fishers targeting red grouper or other grouper species in deeper areas. The reduction in effort expected from closing areas with known densities of gag and spawning aggregations is difficult to quantify; however, simply due to the susceptibility to fishing pressure during spawning (Coleman et al. 1996; Koenig et al. 1996), could be justifiable on its own during the spawning season.



**Figure 1. Current time and area closures on west Florida shelf.**

***Questions to Consider:***

- 1. Should new areas be identified as gag spawning aggregation sites and subsequently closed seasonally to protect spawning aggregations?**
- 2. Should other areas be considered for closure based on geographic concentrations of gag and where the greatest proportion of species effort is concentrated?**
- 3. Should area closures be for all fishing or only for bottom fishing?**

### 1.3.9 Public-proposed Initiatives to Improve Data Collection

Over the past two years, two specific industry proposals have emerged for improving monitoring and management of recreational fisheries. Although these proposals were originally directed toward the red snapper recreational fishery, the Council has decided to consider them in the context of the grouper recreational fishery. In addition, the Council is soliciting input from the public for other ideas as part of this scoping process.

The Save Our Sector (SOS) plan is discussed in the website <http://saveoursector.com>. The Gulf of Mexico Angling Reporting System (GOMARS) is discussed in the website <http://www.conservationfishermen.com/>. The following sections are key components of one or both of the industry proposals. Some of these components could be implemented immediately, but others would require that an infrastructure be developed and would take more time to implement.

#### 1.3.9.1 Recreational Sector Separation

Dividing the recreational allocation into separate for-hire and private recreational allocations would provide a consistent allocation for each sector from year to year. Each sector would have its own annual catch limit and annual catch target, creating the possibility that one sector could be shut down due to having reached its annual catch limit while the other sector is allowed to continue fishing. Opponents of sector separation feel that this would deprive fishermen of full access to the resource, particularly in situations where one sector fails to fully harvest its allocation, but that unharvested allocation is unavailable to the other sector. Sector separation could improve management flexibility, allowing the for-hire and private recreational sectors to potentially be given different fishing seasons, bag limits, or other management measures.

An initial issue is how to divide the recreational allocation. Typically, the Council has set allocations based on some historical allocation. However, the methodology for counting recreational catch has changed at times, which could create discontinuities in a long time series of catches<sup>3</sup>. Furthermore, due to uncertainties about the accuracy of historical catch data, some fishermen may prefer to use a method that does not depend on past catches. Some possible examples of historical and non-historical methods for allocating the stock include:

##### Historical Methods

- Use 1981 to present (use all available data)
- Use 1986 to present (all data since the current headboat survey methodology was adopted)

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<sup>3</sup> MRFSS data is available from 1981 to present for Florida, Alabama, Mississippi, and Louisiana. From 1981-1985 charterboats and headboat landings were estimated as a combined landing, but beginning in 1986 a separate Headboat Survey was implemented. In 1998, a new protocol for surveying charterboat landings known as the For-Hire Survey was implemented. Thus, charterboat landings data since 1998 is not directly comparable to pre-1998 landings data. However, there was a five-year period (1998-2003) when both methods were used. By comparing landings from the two methods during the five-year overlap, NMFS assessment scientists were able to develop conversion factors and recalibrate the charterboat 1981-1997 landings (Diaz and Phares 2004, SEDAR7-AW-03).

- Use 1998 to present (all data since the current charterboat survey methodology was adopted)
- Use the most recent 5-year period (to reflect current usage of the resource)

Non-historical Methods

- Use a 50:50 split (avoids use of historical landings data that may have sampling biases)
- Defer sector allocation until an improved data collection system is in place. Then establish a future time period when for-hire and private recreational landings will be monitored for establishing an allocation (may encourage derby fishing)

**Table 2. 3-way allocations of red grouper and gag under various allocation scenarios. The commercial:recreational allocations from Amendment 30B are retained, with the recreational allocation sub-divided into for-hire and private sectors.**

Allocation basis	Red Grouper			Gag		
	Commercial	For-hire	Private	Commercial	For-hire	Private
All years (1981-2008)	76%	5%	19%	39%	17%	44%
Since HB survey (1986-2008)	76%	4%	20%	39%	16%	45%
Since CB survey (1998-2008)	76%	7%	17%	39%	15%	46%
Recent 5 years (2004-2008)	76%	7%	17%	39%	15%	46%
50:50 split	76%	12%	12%	39%	30.5%	30.5%

*Questions to Consider:*

1. Should the for-hire and private recreational sectors be given separate fixed allocations of the recreational allocation?
2. If sector allocation is established, what should be the basis for the allocation?
3. Should separate seasons, bag limits or other management measures be considered for the two sectors?

**1.3.9.2 Vessel Monitoring System**

The Save Our Sector proposal supports requiring vessel monitoring systems on for-hire vessels. This will allow NMFS to know when a vessel is fishing so that it can better enforce trip reporting requirements, as is done with commercial vessels. For-hire vessels that also have commercial reef fish permits are already required to have vessel monitoring systems, so for those vessels there would be no additional cost. Other for-hire vessels would be required to install the systems. Opponents of this requirement feel that it is an unnecessary expense and that monitoring and data collection of the for-hire sector can be effectively implemented through other means such as web or telephone based reporting of logbooks.

*Questions to Consider:*

- 1. Should vessel monitoring systems be required on federally permitted for-hire vessels?**
- 2. If implemented, should the requirement be for all federally permitted for-hire vessels, or only for those catching grouper?**

### **1.3.9.3 Telephone or Web Based Reporting System**

The Gulf of Mexico Angling Reporting System recommends that NMFS implement an automatic telephone reporting system (similar to the current Highly Migratory Species recreational billfish telephone reporting system) and a web based reporting system (similar to the state of Virginia Recreational Assessment Reporting System). This reporting system would apply to both for-hire and private recreational vessels.

Under the Highly Migratory Species recreational billfish telephone reporting system, the owner of a vessel permitted, or required to be permitted, in the Atlantic Highly Migratory Species Angling or Atlantic Highly Migratory Species Charter/ Headboat category must report all bluefin tuna landings under the Angling category quota as well as all non-tournament landings of Atlantic blue marlin, Atlantic white marlin, Atlantic sailfish and North Atlantic swordfish, through a NMFS automated catch reporting system within 24 hours of the landing. The reports can be submitted by either a toll-free telephone number or over the internet (<https://hmspermits.noaa.gov/permitidlandings.asp>). Data collected by NMFS includes vessel permit number, species, length, and state of landing for each fish that must be reported.

*Questions to Consider:*

- 1. Should a telephone and/or web based recreational self-reporting system be established?**
- 2. Should such a reporting system be mandatory or voluntary?**
- 3. Should the initial implementation apply only to groupers, to a select subset of fish, or to all salt-water fishing?**
- 4. Should information provided by fishermen be shared publicly as with the Virginia program?**
- 5. How can information collected in this system be validated?**

### **1.3.9.4 Electronic Logbooks**

Both the Save Our Sector program and the Gulf of Mexico Angling Reporting System recommend the use of electronic logbooks, both to improve the accuracy of the data collected and to use as an in-season monitoring program. The Save Our Sector program only recommends their use in the for-hire sector, along with vessel monitoring systems to improve monitoring of that sector's catches. The Gulf of Mexico Angling Reporting System recommends that an electronic logbook system be added to the for-hire sector in addition to the telephone/web based reporting system, and that a similar reporting system be developed for the private recreational sector. Neither proposal addresses the commercial fishery, which is currently required to submit paper logbooks.

Efforts are currently underway to develop an electronic logbook for the for-hire sector as part of the Marine Recreational Information Program (MRIP). In August, the Marine Recreational Information Program For-Hire Workgroup met in New Orleans and identified essential self-reported data elements for an electronic logbook pilot study that is currently being designed. The Gulf Council has also established an Ad Hoc Data Collection Advisory Panel to define sector specific electronic data reporting systems requirements as electronic logbooks or other new electronic reporting systems are developed.

*Questions to Consider:*

- 1. An electronic logbook system is currently being developed as a pilot project in the for-hire fishery. Should a similar system also be developed for the private recreational fishery? For the commercial fishery?**
- 2. Should electronic logbooks if implemented be mandatory or voluntary?**
- 3. Should electronic logbooks if implemented be used for all vessels in a sector or for a subsample of vessels?**
- 4. Given that electronic logbooks are self-reported data, how can the information submitted be validated?**
- 5. Should the data from an electronic logbook system be used for in-season monitoring that could close the fishery for a sector when its allocation is reached?**

### **1.3.9.5 Grouper Endorsements**

The Save Our Sector program recommends that grouper endorsements be required in the for-hire sector after vessel monitoring systems and electronic logbooks have been implemented and reliable landings data from those programs has begun to be collected. That information can also be used to determine eligibility requirements to receive a grouper endorsement. Thus, the endorsement could act as a limited entry system to the for-hire grouper fishery. The Gulf of Mexico Angling Reporting System recommends a similar program (which they call a GOMARS permit) for both for-hire and private recreational vessels, but without any eligibility requirements. The endorsements would be used only to identify the universe of grouper fishermen for data collection purposes. Similar endorsements, such as snook stamps, are used at the state level.

*Questions to Consider:*

- 1. If a grouper endorsement is created, should there be separate species endorsements for red grouper, gag, etc., or a single endorsement covering all grouper species?**
- 2. Should grouper endorsements be required for only for-hire vessels, or for both for-hire and private recreational vessels?**
- 3. Should there be eligibility requirements for grouper endorsements for either sector?**

### 1.3.10 Literature Cited

Burns, K.M. 2009. Evaluation of the Efficacy of the Minimum Size Rule in the Red Grouper and Red Snapper Fisheries With Respect to J and Circle Hook Mortality and Barotrauma and the Consequences for Survival and Movement. Dissertation, University of South Florida. 201 pages.

Coleman, F.C., C.C. Koenig, and L.A. Collins. 1996. Reproductive styles of shallow-water groupers (Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing on spawning aggregations. *Environmental Biology of Fishes* 47: 129-141.

GMFMC. 1996. Amendment 14 to the fishery management plan for reef fish resources of the Gulf of Mexico (includes regulatory impact review, initial regulatory flexibility analysis, and environmental assessment). Gulf of Mexico Fishery Management Council, Tampa, FL. 56 p. +tables and figs.

GMFMC. 1998a. August 1998 report of the reef fish stock assessment panel. Gulf of Mexico Fishery Management Council, Tampa, FL. 19 p.

GMFMC. 2008a. Final Reef Fish Amendment 30B. Gulf of Mexico Fishery Management Council, Tampa, FL. 427 p.

GMFMC. 2008b. Report of the ecosystem modeling workshop #3, Tampa, Florida, May 6-7, 2008. Gulf of Mexico Fishery Management Council, Tampa, FL. 12 p.

Harter, S., and A. David. 2009. Examination of proposed additional closed areas on the west Florida shelf: A report to the Gulf of Mexico Fishery Management Council. NOAA Fisheries, Southeast Fisheries Science Center. Panama City Laboratory.

Koenig, C.C., F.C. Coleman, C.B. Grimes, G.R. Fitzhugh, K.M. Scanlon, C.T. Gledhill, and M. Grace. 2000. Protection of fish spawning habitat for the conservation of warm-temperate reef-fish fisheries of shelf-edge reefs of Florida. *Bulletin of Marine Science* 66:593-616.

Koenig, C. C., F. C. Coleman, L. A. Collins, Y. Sadovy, and P. L. Colin. 1996. Reproduction in gag (*Mycteroperca microlepis*)(Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing spawning aggregations. *In* F. Arraguin-Sánchez, J. L. Munro, M. C. Balgos, and D. Pauly, editors. *Biology, fisheries and culture of tropical groupers and snappers*. ICLARM Conf. Proc. 48:307-323.NOAA.

National Marine Fisheries Service (NMFS). 1995. Characterization of the Reef Fish Fishery of the Eastern U.S. Gulf of Mexico. Report to Gulf of Mexico Fishery Management Council. NOAA. NMFS. SEFSC. 43p.

NMFS. 2002a. Status of red grouper in United States waters of the Gulf of Mexico during 1986-2001, revised. NOAA, NMFS, SEFSC, 75 Virginia Beach Drive, Miami, Florida 33149. Contribution No. SFD-01/02-175rev. 65 p.

- NRC (National Research Council). 2001. E. Houde, Chair. Marine protected areas, tools for sustaining ocean ecosystems. National Academy of Sciences. Washington, D.C.
- Schirripa, M.J. and C.M. Legault. 1997. Status of the gag stocks of the Gulf of Mexico, Assessment 2.0. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, FL. 136 p.
- Schirripa, M.J., C.M. Legault & M. Ortiz (1999) The red grouper fishery of the Gulf of Mexico: Assessment 3.0. Southeast Fisheries Science Centre, Sustainable Fisheries Division Contribution SFD-98/99-56.
- SEDAR 10. 2006. SEDAR 10 Gulf of Mexico Gag Grouper Stock Assessment Report. (<http://www.sefsc.noaa.gov/sedar/>), Charleston, South Carolina. 250 p.
- SEDAR 12. 2007a. SEDAR12-Complete Stock Assessment Report 1: Gulf of Mexico Red Grouper. SEDAR (<http://www.sefsc.noaa.gov/sedar/>), Charleston, South Carolina.
- SEDAR. 2009a. Stock assessment of gag in the Gulf of Mexico – SEDAR update assessment. Report of assessment workshop, Miami, FL, March 30-April 2, 2009. 171 p.
- SEDAR. 2009b. Stock assessment of red grouper in the Gulf of Mexico – SEDAR update assessment. Report of assessment workshop, Miami, FL, March 30-April 2, 2009. 143 p.
- SEFSC. 2007. Final model for Gulf of Mexico gag grouper as recommended by the SEDAR Grouper Review Panel: revised results and projections. NOAA Fisheries Service, SEFSC, Miami, Florida. 34 pp.
- Sheaves, M.J. 1995. Effect of design modifications and soak time variations on Antillean-Z fish trap performance in a tropical estuary. *Bulletin of Marine Science* 56: 475-489.
- Shipp, R.L. 2003. A perspective on marine reserves as a fishery management tool. *Fisheries* 28:10-21
- Stewart, J. 2007. By-catch reduction in wire-mesh fish traps. Pages 75-93 in S.J. Kennelly, editor. *Reviews: methods and technologies in fish biology and fisheries*. Springer, Netherlands.
- Stewart, J., and D.J. Ferrell. 2002. Escape panels to reduce by-catch in the New South Wales demersal trap fishery. *Marine and Freshwater Research* 53:1179-1188.