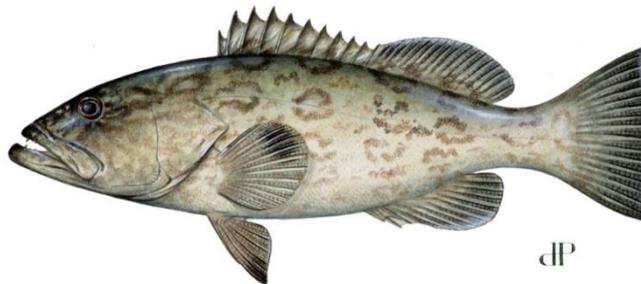


Modifications to Gag Minimum Size Limits, Recreational Season and Black Grouper Minimum Size Limits



GAG

Mycteroperca microlepis

Revised Options Paper for a Framework Action to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measure
AP	advisory panel
CPUE	catch-per-unit-effort
EA	environmental assessment
EEZ	exclusive economic zone
FEIS	final environmental impact statement
FMP	fishery management plan
FWCC	Florida Fish and Wildlife Conservation Commission
GMFMC	Gulf of Mexico Fishery Management Council
IFQ	individual fishing quota
IRFA	initial regulatory flexibility analysis
NMFS	National Marine Fisheries Service
OY	optimum yield
RIR	regulatory impact review
SEDAR	Southeast Data, Assessment, and Review process
SSC	Scientific and Statistical Committee
TAC	total allowable catch
TL	total length

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CHAPTER 1. INTRODUCTION

1.1 Background

The 2006 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) established new requirements to end and prevent overfishing through the use of annual catch limits (ACLs) and accountability measures (AMs). In 2009 a gag update assessment under the Southeast Data, Assessment and Review (SEDAR) program (SEDAR 10 Update 2009) indicated the gag stock size had declined since 2005. A large part of the decline was attributed to an episodic mortality event in 2005 (most likely associated with red tide) that resulted 18% of the gag stock being killed in addition to the normal natural and fishing mortalities. The update assessment indicated the Gulf gag stock was both overfished and undergoing overfishing, and the Gulf of Mexico Fishery Management Council (Council) was informed of this status determination in August 2009. In response, an interim rule was implemented on January 1, 2009 to reduce overfishing of gag, followed by permanent rules under Amendment 30B (GMFMC 2008). Amendment 32 (GMFMC 2011a) subsequently established a formal rebuilding plan for gag not to exceed 10 years.

A benchmark assessment for gag completed in 2014 (SEDAR 33 2014) indicated that the gag stock was no longer overfished or undergoing overfishing, and had rebuilt to above its maximum sustainable yield level. However, in 2014 a major red tide event occurred off of the Florida west coast in the region of greatest gag abundance. Due to uncertainty about the impact of this red tide event on the gag stock, the Scientific and Statistical Committee (SSC) recommended a conservative acceptable biological catch (ABC) that assumed the 2014 red tide event would have the same impact on the gag stock as the 2005 event. The Council requested that the SSC reevaluate its ABC recommendation, and in January 2015 the SSC received an analysis of the red tide event from the Florida Fish and Wildlife Research Institute which indicated that the impact of the 2014 red tide event was only 4% to 7% of the 2005 event. With this new information, the SSC revised its recommended ABCs based on a projection scenario that assumed no significant impact from the 2014 red tide event.

Gulf of Mexico Fishery Management Council

- Responsible for conservation and management of fish stocks.
- Consists of 11 voting members who are appointed by the Secretary of Commerce, 1 voting member representing each of the five Gulf States, and the Regional Administrator for the National Marine Fisheries Service Southeast Region.
- Responsible for developing fishery management plans and recommending regulations to the National Marine Fisheries Service for implementation.

National Marine Fisheries Service

- Responsible for preventing overfishing while achieving optimum yield.
- Approves, disapproves, or partially approves Council recommendations.
- Implements regulations.

1.2 Purpose and Need

The purpose of this framework action is to address inconsistencies in minimum size limits for gag and black grouper in South Atlantic and Gulf of Mexico waters; and modify the gag recreational size limit and fishing season to allow the annual catch level (ACL) in the Gulf of Mexico to be harvested based on the SEDAR 33 benchmark stock assessment. The need for this framework action is to allow the recreational sector to harvest gag and black grouper at a level consistent with achieving optimum yield while preventing overfishing, to address social and economic impacts of keeping the recreational gag fishing season open to achieve optimum yield, and to provide anglers consistent size regulations for gag and Black grouper.

1.3 History of Management

Federal management of gag began in November 1984 with the implementation of the Reef Fish Fishery Management Plan and its associated environmental impact statement (EIS). The initial regulations, designed to rebuild declining reef fish stocks, included prohibitions on the use of fish traps, roller trawls, and powerhead-equipped spear guns within an inshore stressed area and directed the National Marine Fisheries Service (NMFS) to develop data reporting requirements in the reef fish fishery.

In July 1985, the Florida Marine Fisheries Commission (now Florida Fish and Wildlife Conservation Commission - FWCC) established a Florida state regulation to set a minimum size limit of 18 inches total length for gag, black grouper, and several other shallow-water grouper species. In December 1986 FWCC implemented a state recreational bag limit of five grouper per person per day, with an off-the-water possession limit of 10 per person, for any combination of groupers excluding rock hind and red hind.

Amendment 1 (EA/RIR/IRFA), implemented February 21, 1990, established several reef fish management measures including a 20-inch total length (TL) minimum size limit on red grouper, Nassau grouper, yellowfin grouper, black grouper, and gag. Florida modified its regulations in 1990 to be consistent with the federal regulations.

An August 1999 regulatory amendment, implemented June 19, 2000, increased the commercial size limit for gag and black grouper from 20 to 24 inches TL, increased the recreational size limit for gag from 20 to 22 inches TL, prohibited commercial sale of gag, black, and red grouper each year from February 15 to March 15 (during the peak of gag spawning season), and established two marine reserves (Steamboat Lumps and Madison-Swanson) that are closed year-round to fishing for all species under the Council's jurisdiction. An additional action to further increase the recreational minimum size limit for gag and black grouper by one inch per year until it reached 24 inches TL was disapproved by NMFS. [65 FR 31827].

On August 11, 2009, the Council was notified by NMFS that the Gulf of Mexico gag stock was both overfished and undergoing overfishing based on the results of a 2009 update stock assessment. The remaining summary focuses on the history of gag management since the stock was declared overfished. For a full history of grouper management, refer to Amendment 30B, History of Management Activities Affecting Grouper Harvest. (GMFMC 2008).

Amendments

Amendment 29 (EA/RIR/IRFA), implemented January 1, 2010, established an IFQ system for the commercial grouper and tilefish fisheries.

Amendment 30B (FEIS/RIR/IRFA), implemented May 2009, established annual catch limits (ACLs) and accountability measures (AMs) for gag and red grouper, and managed shallow-water grouper to achieve optimum yield and improve the effectiveness of federal management measures. The amendment (1) defined the gag minimum stock size threshold (MSST) and optimum yield (OY); (2) set interim allocations of gag and red grouper between recreational and commercial fisheries; (3) made adjustments to the gag and red grouper total allowable catches (TACs) to reflect the current status of these stocks; (4) established ACLs and AMs for the commercial and recreational red grouper fisheries, commercial and recreational gag fisheries, and commercial aggregate shallow-water grouper fishery; (5) adjusted recreational grouper bag limits and seasons; (6) adjusted commercial grouper quotas; (7) reduced the red grouper commercial minimum size limit; (8) replaced the one month February 15 through March 14 commercial grouper closed season with a four month seasonal area closure at the Edges, a 390 square nautical mile area in the dominant gag spawning grounds; (9) eliminated the end date for the Madison-Swanson and Steamboat Lumps marine reserves; and (10) required that vessels with federal commercial or charter reef fish permits comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.

Amendment 31 (FEIS/RIR/IRFA), implemented May 26, 2010, (1) prohibited the use of bottom longline gear shoreward of a line approximating the 35-fathom contour from June through August; (2) established a longline endorsement; and (3) restricted the total number of hooks that may be possessed onboard each reef fish bottom longline vessel to 1,000, only 750 of which may be rigged for fishing. The boundary line was initially moved from 20 to 50 fathoms by emergency rule effective May 18, 2009 to protect endangered sea turtles. That rule was replaced on October 16, 2009 by a rule under the Endangered Species Act moving the boundary to 35 fathoms and implementing the maximum hook provisions.

Amendment 32 (EIS/RIR/RFA), implemented March 12, 2012, established a rebuilding plan for gag that would rebuild the stock in 10 years or less. The stock-ACL was set at the yield corresponding to the annual estimate of maximum sustainable yield, and the stock-annual catch target (ACT) was set at the yield corresponding to optimum yield. The stock ACL and ACT were then allocated to the recreational and commercial sectors at 61% and 39%. The initial reduction in gag catch levels resulted in a large decrease in the commercial quota, from 1.410 mp gw to 0.430 mp gw (Table 1.3.1). This created a concern that, once the grouper individual fishing quota (IFQ) system was implemented in 2012, there would be insufficient shares to accommodate the commercial take of gag, forcing an increase in regulatory discards and additional discard mortality. This additional discard mortality had not been taken into consideration in the stock assessment. Therefore, the commercial gag ACT was reduced by an additional 14% to account for dead discards as a result of insufficient gag IFQ shares that had not been accounted for in the assessment. This adjusted ACT became the commercial gag quota. In addition, the amendment revised the use of multi-use IFQ shares and reduced the commercial

gag minimum size limit to 22 inches total length. The amendment set the recreational gag season as July 1 through October 31, with a 22 inch total length (TL) minimum size limit and a 2-fish gag limit within the 4-fish aggregate grouper bag limit. The amendment reduced the commercial minimum size limit of gag from 24 inches to 22 inches TL to reduce discards. The amendment also implemented overage adjustments for the gag recreational sector while the stock was under a rebuilding plan.

Table 1.3.1. Gag ACL, ACT and actual landings in mp gw for 2009-2014.

Year	Comm. ACL	Comm. ACT/Quota	Actual landings	Rec. ACL	Rec. ACT	Actual landings
2009	na	1.320	0.715	2.590	2.060	
2010	na	1.410	0.497	2.640	2.140	1.664
2011	0.616	0.430	0.319	0.964	0.781	0.660
2012	0.788	0.567	0.523	1.232	1.031	0.939
2013	0.956	0.708	0.575	1.495	1.287	1.435
2014	1.110	0.835	0.586	1.720	1.519	0.821

Source: NMFS SERO and Amendment 32. Prior to 2011 there was not a commercial ACL.

Amendment 38 (EA/RIR/RFA) was implemented March 1, 2013. It revised the post-season recreational accountability measure that reduces the length of the recreational season for all shallow-water grouper in the year following a year in which the ACL for gag or red grouper is exceeded. The modified accountability measure reduces the recreational season of only the species for which the ACL was exceeded.

Regulatory Amendments, Emergency and Interim Rules

A rule under the Endangered Species Act was implemented October 16, 2009 that prohibits bottom longlining for Gulf reef fish east of 85°30'W longitude (near Cape San Blas, Florida) shoreward of the 35-fathom depth contour, and it restricts the number of hooks on board to 1,000 hooks per vessel with no more than 750 hooks being fished or rigged for fishing at any given time. The rule replaced the 50 fathom boundary emergency rule in order to relieve social and economic hardship on longline fishermen who were prevented from fishing for shallow-water grouper by the emergency rule, and to keep fishing restrictions consistent with the Amendment 31 actions in place while proposed Amendment 31 is reviewed. [74 FR 53889].

In response to an uncontrolled oil spill resulting from the explosion on April 20, 2010 and subsequent sinking of the Deepwater Horizon oil rig approximately 36 nautical miles (41 statute miles) off the Louisiana coast, NMFS issued an emergency rule to temporarily close a portion of the Gulf of Mexico exclusive economic zone (EEZ) to all fishing [75 FR 24822]. The initial closed area extended from approximately the mouth of the Mississippi River to south of Pensacola, Florida and covered an area of 6,817 square statute miles. The coordinates of the closed area were subsequently modified periodically in response to changes in the size and location of the area affected by the spill. At its largest size on June 1, 2010, the closed area covered 88,522 square statute miles, or approximately 37 percent of the Gulf of Mexico EEZ. This closure was implemented for public safety.

While management measures for the gag rebuilding plan were being developed (Amendment 32), an interim rule was published on December 1, 2010 [75 FR 74654], to reduce gag landings consistent with ending overfishing. This interim rule implemented conservative management measures while a rerun of the update stock assessment was being completed. At issue was the treatment of dead discarded fish in the assessment. The rule reduced the commercial quota to 100,000 pounds gutted weight, suspended the use of red grouper multi-use individual fishing quota allocation so it would not be used to harvest gag, and to temporarily halted the recreational harvest of gag until recreational fishing management measures being developed in Amendment 32 could be implemented to allow harvest at the appropriate levels.

The gag 2009 update stock assessment was rerun in December 2010 addressing the problems with discards identified earlier in 2010. This assessment was reviewed in January 2011 by the Council's Scientific and Statistical Committee and presented to the Council at their February 2011 meeting. The assessment indicated that the gag commercial quota implemented in the December 1, 2010, interim rule could be increased and that a longer recreational season could be implemented. In response, the Council requested an interim rule while they continued to work on long-term measures including a gag rebuilding plan in Amendment 32. The interim rule set the commercial gag quota at 430,000 pounds gutted weight (including the 100,000 pounds previously allowed) for the 2011 fishing year, and temporarily suspended the use of red grouper multi-use IFQ allocation so it cannot be used to harvest gag. It also set a two-month recreational gag fishing season from September 16 through November 15. This temporary rule was effective from June 1, 2011 through November 27, 2011, and was extended for another 186 days or until Amendment 32 was implemented [76 FR 31874].

A December 2012 framework action (GMFMC 2012), implemented July 5, 2013, revised the recreational gag open season. It would still open on July 1, but instead of closing on October 31 it would close on the date when the ACT is projected to be reached. This framework action also modified the February 1 through March 31 recreational closed season on shallow-water grouper to apply only on waters beyond the 20-fathom boundary. In waters shoreward of 20 fathoms, recreational shallow-water grouper fishing would remain open except for gag, which is subject to a separate closed season. This modified closed season took effect with the 2014 calendar year.

An April 2013 framework action (GMFMC 2013), implemented September 3, 2013, removed the requirement to have onboard and use venting tools when releasing reef fish.

1.4 Gag ACL and ACT

Amendment 32 established a rebuilding plan for gag, including yield streams for increasing ACLs and ACTs for 2012 through 2015. For 2015, the rebuilding plan set a stock ACL of 3.12 mp gw. This was an increase of 300,000 pounds, or 10.6%, above the 2014 ACL. The resulting sector ACLs and ACTs for 2015 are shown in Table 1.4.1.

Table 1.4.1. Gag acceptable biological catch (ABC), ACL, and annual catch target (ACT) for 2015 from the gag rebuilding plan (Amendment 32).

Year	Recreational			Commercial	
	ABC/Stock ACL	ACL	ACT	ACL	ACT/Quota
2015+	3.12	1.903	1.708	1.217	0.939

Source: Amendment 32. Units are in million pounds gutted weight. The stock annual catch limit (ACL) is allocated 61% recreational, 39% commercial.

The 2014 benchmark assessment (SEDAR 33, 2014) indicated that the gag stock was no longer overfished or experiencing overfishing as of 2012. However, as discussed in Section 1.1, in 2014 a major red tide event occurred off of the Florida west coast in the region of greatest gag abundance. After reviewing an analysis of the red tide event from the Florida Fish and Wildlife Research Institute, the Scientific and Statistical Committee (SSC) concluded that it would have no significant impact on the gag stock, and recommended OFL and ABC for 2015-2017 based on the rebuilt stock status. The resulting yields from the ABC control rule produced ABC projections that were very close to the OFL yields. The SSC felt that this buffer was too small to provide protection against overfishing (exceeding OFL). Therefore, the SSC decided to recommend a yield stream based on the optimum yield (OY) yields (Table 1.4.2).

Table 1.4.2. OFL, ABC, and OY projections for gag based on SEDAR 33 benchmark assessment and assuming no red tide mortality in 2014.

Year	OFL	ABC from control rule	OY (ABC recommended by SSC)
2015	6.77	6.43	5.21
2016	5.84	5.57	4.75
2017	5.38	5.13	4.57
Equilibrium	4.45	4.21	4.46

Units are in million pounds gutted weight.

Upon review of the SEDAR 33 assessment and ABC recommendations, both recreational and commercial members of the Reef Fish Advisory Panel (Reef Fish AP) pointed out they have not observed the rapid recovery of the gag stock that the stock assessment has indicated. The Reef Fish AP therefore recommended that the Council set a pre-cautionary approach to the gag ACL (GMFMC 2014).

The SSC subsequently reviewed several catch-per-unit-effort (CPUE) indices for gag updated through 2014. The updated indices indicated that recreational landings per angler hour have been declining since 2010 for headboats, and since 2008 for charter boats and private vessels. Fishery-independent indices have also shown declining CPUE indices in recent years. In addition, an index of recruitment success for northeastern Gulf of Mexico gag grouper by year based on a model that uses oceanographic conditions to project larval transport model runs projects below average recruitment since 2010 (Figure 1.4.1) (GMFMC 2015).

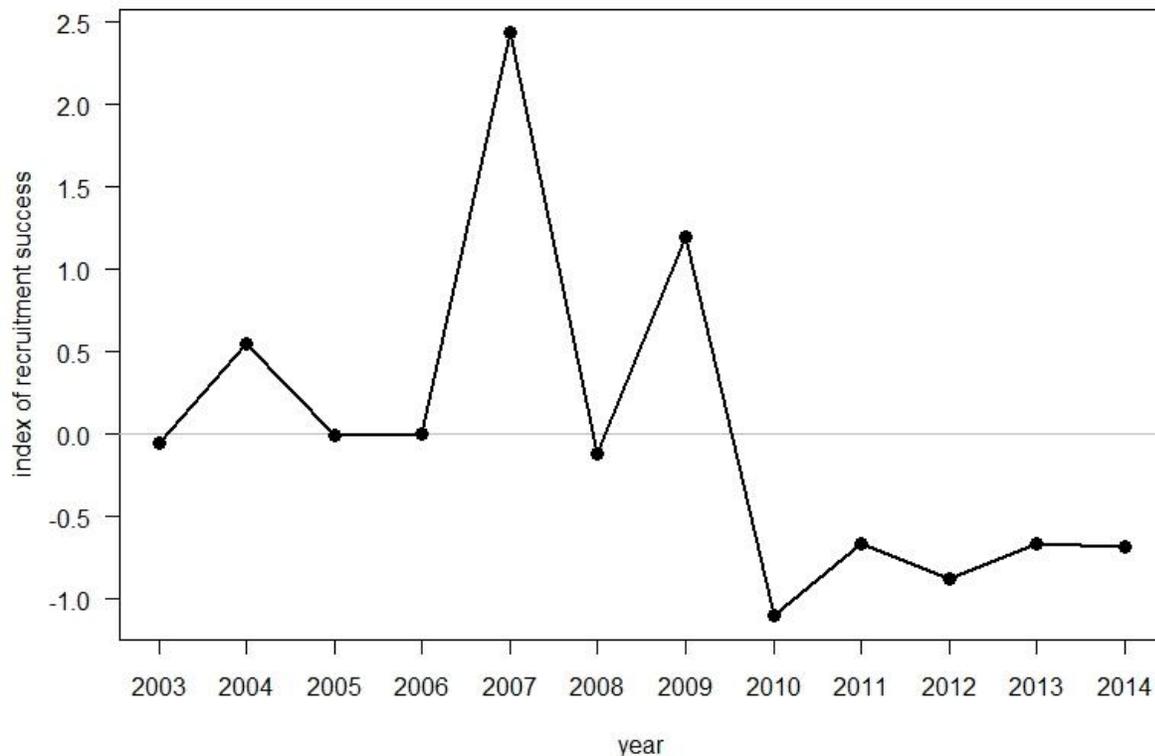


Figure 1.4.1. Expected recruitment anomalies for northeastern Gulf of Mexico gag grouper by year based solely on the effects of oceanographic conditions (update from SEDAR33-DW18).

As a result of the updated analysis, the SSC recommended that, given the recent declines in fishery dependent and fishery independent indices of abundance for gag, that the Council use caution when setting ACL and ACT for 2015-2017.

Based on the recommendations of the Reef Fish AP and the SSC, plus public testimony presented at the June 2015 Council meeting, the Council voted not to change the gag ACL or ACT at this time. The status quo ACLs and ACTs shown in Table 1.4.1 will remain in effect, and all alternatives to change them have been moved to the considered but rejected section of this framework action.

A SEDAR gag update assessment is tentatively scheduled to be conducted in 2016, with results presented to the Council in January 2017.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Gag Recreational Minimum Size Limit

Alternative 1. No Action. The recreational minimum size limit for gag remains at 22 inches total length (TL).

Alternative 2. Set the recreational minimum size limit for gag at 24 inches TL.

Discussion: The primary issue regarding this action is whether the gag recreational minimum size limit in the Gulf should be consistent with the size limit in the South Atlantic, which is 24 inches TL. The range of alternatives is to be either consistent or remain inconsistent. Therefore, only two alternatives are needed to encompass the range of alternatives that address the issue.

An additional issue to consider is the mis-identification of gag and black grouper by recreational fisherman. Black grouper and gag are similar looking, and gag are often called black grouper in the northern Gulf. This can result in confusion if gag and black grouper have different regulations. For this reason, Action 1 (gag minimum size limit) and Action 2 (black grouper minimum size limit) have the same range of alternatives.

Alternative 1, no action, leaves the gag recreational minimum size limit at 22 inches TL. This is inconsistent with the South Atlantic minimum size limit which was set to 24 inches TL for both the recreational and commercial sector in 1999 (SAFMC 1999). The 22 inch TL recreational minimum size limit was implemented in the Gulf of Mexico (Gulf) for gag and black grouper in 2000 (GMFMC 1999). At that time the commercial minimum size limit for gag and black grouper was set at 24 inches TL which was estimated to be the size at 50% female gag maturity (Schirripa and Goodyear 1994). The Council proposed a further increase in the recreational minimum size limit by one inch per year until it reached 24 inches TL. However, that proposal was disapproved by NMFS on the basis that setting both the commercial and recreational minimum size limits at 24 inches TL would disproportionately impact the recreational sector, which catches smaller fish on average than the commercial sector. In 2012, Amendment 32 reduced the commercial minimum size limit for gag to 22 inches TL to reduce discard mortality. More recent analysis has estimated the gag size at 50% female maturity to be 22 inches TL (SEDAR 33, 2014). Therefore, Alternative 1 would keep the gag size limit at the size of 50% female maturity, but it would be inconsistent with the South Atlantic's 24 inch TL minimum size limit. For recreational fishermen in the south Florida area who fish in both Gulf and South Atlantic Council jurisdictions, this can create confusion as to which size limit should be adhered to. In addition, while Florida has a 22 inch TL size limit in state waters in the Gulf and a 24 inch TL size limit in the Atlantic, the Atlantic regulations apply to state waters off Monroe County in both the Atlantic and Gulf.

Alternative 2 sets the gag recreational minimum size limit at 24 inches TL, which is consistent with the South Atlantic's minimum size limit. Florida (north of Monroe County) plus Alabama, Mississippi, Louisiana, and Texas all have a 22 inch TL recreational minimum size limit in their

state waters. Gag reach 22 inches TL at about 3.5 years and take about half a year to grow to 24 inches TL (Table 2.1.1).

Table 2.1.1. Gag size (inches TL) at age (years) based on growth function in SEDAR 33

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Inches	10	16	20	24	28	31	33	36	38	39	41	42	44	45	45	46	47	48	48	49

Increasing the minimum size limit will reduce the retained catch rate and extend the season (Tables 2.3.1 and 2.3.2), but will also increase regulatory discards and discard mortality. Discard mortality rates vary with depth. The 2006 gag stock assessment (SEDAR 10 2006) calculated the overall discard mortality for gag from all sources of recreational fishing at 21%. However, analysis conducted for the current SEDAR 33 (2014) assessment calculated a smaller rate of mortality, 16% from headboats and charter vessels, and 12% from private recreational vessels (Table 2.1.2) (Sauls 2013).

Table 2.1.2. Calculated average depth of released gag by fishing fleet and associated discard mortality rate estimate.

Fishing Fleet	Avg. depth (m)	Sauls (2013)	SEDAR 10 (2006)
Vertical line	31	0.27	0.57
Longline	58	0.27	0.76
Headboat	27	0.16	0.21
Charter vessel	25	0.16	0.21
Private recreational	17	0.12	0.21

From SEDAR 33 (2014), Table 5.2. Original source: Sauls 2013.

Given the speed at which gag grow from 22 inches TL to 24 inches TL, and a relatively low release mortality rate in shallow water, any increase in dead discards from increasing the size limit should be fairly minor.

2.2 Action 2 – Black Grouper Recreational Minimum Size Limit

Alternative 1. No Action. The recreational minimum size limit for black grouper remains at 22 inches TL.

Alternative 2. Set the recreational minimum size limit for black grouper at 24 inches TL.

Discussion: As with gag, the primary issue regarding this action is whether the black grouper recreational minimum size limit in the Gulf should be consistent with the size limit in the South Atlantic, which is 24 inches TL, and whether it should be consistent with the size limit for gag selected in Action 1. Black grouper and gag are similar looking, and gag are often called black grouper in the northern Gulf. This can result in confusion if gag and black grouper have different size limits. The range of alternatives is to be either consistent or remain inconsistent. Black grouper reach 50% female maturity at about 6.5 years of age, and at about 34 inches TL. The minimum size limits being considered are both under the size of 50% female maturity.

However, the SEDAR 19 black grouper stock assessment concluded that the black grouper stock is neither overfished nor undergoing overfishing. The fishing mortality in 2008 was at half the overfishing limit, and the spawning stock biomass level was 40% above the maximum sustainable yield level (SEDAR 19, 2010). Therefore, it is unnecessary to reduce catch rates by increasing the size limit. In addition, black grouper are included as part of the ACL for “other” shallow-water grouper (black, scamp, yellowmouth, and yellowfin grouper). This aggregate ACL has never been reached, and from 2011 to 2013 black grouper contributed to only about 7% of the total recreational shallow water grouper landings (pers. comm. NMFS SERO). Since the issue is consistency of regulations, only two alternatives are needed to encompass the range of alternatives.

Alternative 1, no action, leaves the black grouper recreational minimum size limit at 22 inches TL. This is inconsistent with the South Atlantic minimum size limit which was set to 24 inches TL for both the recreational and commercial sector in 1999 (SAFMC 1999), but is consistent with the commercial minimum size limit of 22 inches TL in the Gulf. As discussed under Action 1, the 22 inch TL recreational minimum size limit was implemented in the Gulf for gag and black grouper in 2000 (GMFMC 1999). The Council proposed a further increase in the recreational minimum size limit by one inch per year until it reached 24 inches TL. However, that proposal was disapproved by NMFS. For recreational fishermen in the south Florida area who fish in both Gulf and South Atlantic Council jurisdictions, the difference in minimum size limit regulations can create confusion as to which size limit should be adhered to. In addition, while Florida has a 22 inch TL recreational size limit in state waters in the Gulf and a 24 inch recreational size limit in the Atlantic, the Atlantic regulations apply to state waters off Monroe County in both the Atlantic and Gulf. Alabama and Louisiana also have a 22 inch TL recreational minimum size limit for black grouper. Mississippi has a 24 inch TL recreational minimum size limit, while Texas has no size limit (Table 2.2.2). Black grouper are primarily a southern Florida stock. They are rarely caught in the northern or western Gulf. However, gag are frequently referred to as black grouper, which can create confusion in identifying gag and black grouper.

Alternative 2 sets the black grouper recreational minimum size limit at 24 inches TL, which is consistent with the South Atlantic’s minimum size limit and with the commercial minimum size limit in the Gulf. Florida (north of Monroe County) plus Alabama and Louisiana have a 22 inch TL recreational minimum size limit in their state waters. Mississippi has a 24 inch TL minimum size limit, and Texas has no size limit (Table 2.2.2). Black grouper reach 22 inches TL at just under 3 years and take about half a year to grow to 24 inches TL (Table 2.2.1). Increasing the minimum size limit will reduce the retained catch rate, but since the season is already open year-round (except for a February – March closure in waters less than 20 fathoms), there will be no effect on season length. Increasing the minimum size limit will increase regulatory discards and discard mortality. Given the speed at which black grouper grow from 22 inches to 24 inches, and a relatively low release mortality rate in shallow water, any increase in discard mortality from increasing the size limit should be fairly minor.

Table 2.2.1. Black grouper size (inches TL) at age (years) based on growth function (in SEDAR 19)

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Inches	13	18	22	26	30	33	36	38	40	42	43	44	45	46	47	48	48	49	49	50

Increasing the minimum size limit will increase regulatory discards and discard mortality. The SEDAR 19 (2010) black grouper assessment used a base discard mortality rate of 20% for hook and line fishing. However, due to a lack of empirical data, sensitivity runs were performed that varied this estimate from 10 – 90%, and found that varying the discard mortality rate had a high impact on the results. A new black grouper standard assessment is planned for 2015-2016, under which the discard mortality rate estimate will be reevaluated. Despite the uncertainty regarding the discard mortality rate, given the speed at which black grouper grow from 22 inches to 24 inches, any increase in dead discards from increasing the size limit should be fairly minor.

Table 2.2.2. State minimum size limits for gag and black grouper in inches TL

	FL	AL	MS	LA	TX
Gag	22"	22"	22"	22"	22"
Black Grouper	22"	22"	24"	22"	none

2.3 Action 3 – Modifications to the Recreational Gag Fishing Season

Alternative 1: No action. The recreational gag season will remain July 1 through December 2 (147 days) unless shortened due to a projection that the annual catch level (ACL) will be reached sooner.

Preferred Alternative 2: Remove the December 3-31 fixed closed season. The recreational gag season will remain open through the end of the year or until a projection that the ACL will be reached sooner¹. Note: If Alternative 2 is selected, Alternative 3 or 4 may also be selected.

Alternative 3: Remove the January through June gag seasonal closure. Begin the season on January 1 and close when the recreational ACL is projected to be reached¹.

Option 3a. Maintain the February 1 through March 31 closed season on recreational harvest of gag beyond the 20-fathom boundary. Fishing for gag will be allowed shoreward of the boundary during those months.

Option 3b. Remove the February 1 through March 31 closed season on recreational harvest of gag beyond the 20-fathom boundary. Fishing for gag will be allowed in all federal waters during those months. The 20-fathom closer will continue to be in effect for other shallow-water grouper.

Option 3c. Close the gag recreational season from February 1 through March 31 in all Federal waters.

Alternative 4: Remove the January through June gag seasonal closure. Set an opening date for the recreational gag season such that the ACL is projected to be reached on or after December 31 (based on the 2016 ACL).

Option 4a. Maintain the February 1 through March 31 closed season on recreational harvest of gag beyond the 20-fathom boundary. Fishing for gag will be allowed shoreward of the boundary during those months if gag season is open.

Option 4b. Remove the February 1 through March 31 closed season on recreational harvest of gag beyond the 20-fathom boundary. Fishing for gag will be allowed in all federal waters during those months if gag season is open. The 20-fathom closer will continue to be in effect for other shallow-water grouper.

Option 4c. Open January 1 through 31, close February 1 through March 31 to recreational harvest of gag in all federal waters, and re-open on the date such that the 2016 ACL is projected to be reached on or after December 31.

¹ The recreational season closing date for gag is normally based on when the date when the ACL is projected to be reached. However, under the accountability measures for shallow-water grouper, if the recreational landings for gag exceed the ACL, then in the following year the season will close based on when the ACT is projected to be reached.

Discussion: Gag have a protracted spawning season (December to May), but their peak spawning occurs during February-March in depths of 35 to 45 fathoms. There is currently a closed season for all shallow-water grouper from February 1 through March 31 of each year in offshore waters beyond a series of boundary lines that approximate the 20-fathom depth contour (GMFMC 2012). During this period, recreational harvest of shallow-water grouper (red, black, gag, yellowfin, yellowmouth, and scamp) is prohibited in depths beyond 20 fathoms. Shoreward of this boundary, harvest of shallow-water grouper is allowed, except for gag which is under a January 1 through June 30 closed season. If the open season for gag is modified to include days from February or March, that opening will apply only shoreward of the 20-fathom boundary during those days unless modified by options in the above alternatives. Beyond 20 fathoms, harvest would continue to be closed to all shallow-water grouper including gag.

Alternative 1 leaves the recreational gag season at its current dates of July 1 through December 2. Preliminary landings estimates for 2014 indicate that the recreational sector landed 870,720 lbs. of gag, just 48% of the 2015 ACL (1.72 mp), and 43% of the 2015 ACL (1.903 mp). Without changes to increase the number of fishing days in the recreational season, it is unlikely that the recreational sector will be able to catch its allocation.

Preferred Alternative 2 removes the December 3-31 fixed closed season. The regulations implementing a December 2012 framework action adjusted the recreational season to close on the date when NMFS projected the ACT would be reached. For 2013, NMFS projected that the ACT would be reached on December 2. This closed date was established as a fixed closed season rather than one that could be adjusted each year in response to new projections. Consequently, the recreational gag season continued to close on December 3 regardless of whether the ACT or ACL was reached. This alternative removes the December 3 closure date, specifies that the closure date is to be based on the ACL rather than the ACT (unless accountability measures are in effect), and allows the season to remain open for any length of time or until the ACL (or ACT if season is under accountability measures) is projected to be reached. This alternative can be selected in combination with either **Alternative 3** or **Alternative 4**.

Alternative 3 sets a gag recreational season that opens on January 1 and closes when the recreational ACL is projected to be reached (unless accountability measures are in effect, in which case the closing date is based on when the ACT is projected to be reached). **Option 3a** leaves the February-March shallow-water grouper closed season beyond the 20-fathom boundary in place. Gag recreational harvest would be closed seaward of the 20-fathom boundary but would be open shoreward of the boundary during these months. These days are counted as open days when calculating the number of days in the gag fishing season. **Option 3b** eliminates the February-March closed season beyond the 20-fathom boundary for gag, so that gag could be caught in all waters during this period. The 20-fathom boundary closure would remain in place for other shallow-water grouper. **Option 3c** closes February-March to harvest of gag in all waters. The recreational gag season would open in January, close February and March, and then reopen on April 1 and remain open until the ACL is projected to be reached (or ACT if accountability measures are in effect). Table 2.3.1 shows the projected season dates and number of fishing days under each combination of Action 1 size limit alternative and Action 2, Alternative 3 option.

Alternative 4 sets an opening date for the gag recreational season that is projected to allow the 2016 gag season to remain open (other than fixed closures) through December 31 without exceeding the ACL. **Option 4a** leaves the February-March shallow-water grouper closed season beyond the 20-fathom boundary in place. Gag recreational harvest would be closed seaward of the 20-fathom boundary but would be open shoreward of the boundary during these months if the gag season is open. These days are counted as open days when calculating the number of days in the gag fishing season. **Option 4b** eliminates the February-March closed season beyond the 20-fathom boundary for gag, so that gag could be caught in all waters during this period if the gag season is open. The 20-fathom boundary closure would remain in place for other shallow-water grouper. **Option 4c** closes February-March to harvest of gag in all waters. The recreational gag season would open in January, close February and March, and then reopen on the date that is projected to allow the 2016 gag season to remain open (other than fixed closures) through December 31 without exceeding the ACL. Table 2.3.2 shows the projected season dates and number of fishing days under each combination of Action 1 alternative and Action 2, Alternative 4 option.

Under **Alternative 4**, the opening dates would only be calculated once, when first implemented. These opening dates would then remain in effect in future years unless modified in a framework action. Consequently, it is possible that an ACL (or ACT) closure could occur in future years if the ACL or ACT is reduced or if catch rates increase.

These season projections in the following tables are based on estimates for 2016 only and are subject to revision. The projection model does not account for effort shifting that may take place during a seasonal closure, nor does it consider any changes in the average size of gag over time. Additionally, reductions in harvest from closure dates are relative to future projected landings. Actual future landings may be higher or lower than projected, resulting in harvest reductions being over or underestimated.

Table 2.3.1. Estimated gag recreational seasons under combinations of Action 1 size limits and Action 3, Alternative 3 options.

		Action 3 Alternative 3 Option		
		Alt. 3a 20-fathom closure in effect	Alt. 3b No 20-fathom closure	Alt. 3c Feb-Mar closed in all waters
22 inches TL	ACL	1/1-8/27 (239 days)	1/1-8/23 (235 days)	1/1-1/31 : 4/1-10/6 (220 days)
	ACT	<i>1/1-8/15 (227 days)</i>	<i>1/1-8/10 (222 days)</i>	<i>1/1-1/31 : 4/1-8/28 (181 days)</i>
24 inches TL	ACL	1/1-12/9 (343 days)	1/1-11/30 (334 days)	No ACL closure (306 days)
	ACT	<i>1/1-11/2 (306 days)</i>	<i>1/1-10/21 (294 days)</i>	<i>1/1-1/31 : 4/1-11/30 (275 days)</i>

Season closes at 12:01 am on the day following the last date of the season. The upper numbers are the estimated season dates and days to reach the ACL. The lower numbers (in italics) are the estimated season dates and days to reach the ACT. Seasons will be based on the ACL dates unless the ACL was exceeded in the previous year, in which case season dates will be based on the ACT.

Table 2.3.2. Estimated gag recreational seasons under combinations of Action 1 size limits and Action 3, Alternative 4 options.

		Action 3 Alternative 4 Options		
Minimum Size Limit		Alt. 3a 20-fathom closure in effect	Alt. 3b No 20-fathom closure	Alt. 3c Feb-Mar closed in all waters
22 inches TL	ACL	5/28-12/31 (218 days)	5/28-12/31 (218 days)	5/28-12/31 (218 days)
	ACT	<i>6/21-12/31 (194 days)</i>	<i>6/21-12/31 (194 days)</i>	<i>6/21-12/31 (194 days)</i>
24 inches TL	ACL	2/6-12/31 (329 days)	2/19-12/31 (316 days)	No ACL closure (306 days)
	ACT	<i>4/18-12/31 (258 days)</i>	<i>4/18-12/31 (258 days)</i>	<i>4/18-12/31 (258 days)</i>

Season closes at 12:01 am on the day following the last date of the season. The upper numbers are the estimated season dates and days to reach the ACL. The lower numbers (in italics) are the estimated season dates and days to reach the ACT. Seasons will be based on the ACL dates unless the ACL was exceeded in the previous year, in which case season dates will be based on the ACT.

Considered but Rejected

The Council considered increasing the gag ACLs and modifying the ACTs, but decided on no action due to concerns about low catch rates. In addition, the commercial ACT is used to calculate gag multi-use IFQ shares under the grouper IFQ program. Therefore, alternatives 2 through 5, which would have eliminated the commercial ACT, are not viable as written. See Section 1.4 for a more detailed explanation. The alternatives that were moved to considered but rejected are as follows.

Modifications to the Gag Annual Catch Limits and Annual Catch Targets

All weights are in million pounds gutted weight. The stock annual catch limit (ACL) is allocated 61% recreational, 39% commercial.

Alternative 1. No Action. Maintain the acceptable biological catch (ABC), ACL, and annual catch target (ACT) at the existing 2015 level.

Year	ABC/Stock ACL	Recreational		Commercial	
		ACL	ACT	ACL	ACT/Quota
2015+	3.12	1.903	1.708	1.217	0.939

Alternative 2. Set ACL and ACT mid-way between status quo and the projected equilibrium optimum yield. Set the recreational ACT buffer at 8% based on the ACL/ACT control rule, and do not use a commercial ACT.

Year	Stock ACL	Recreational		Commercial	
		ACL	ACT	ACL/Quota	ACT
2015+	3.80	2.32	2.13	1.48	none

Alternative 3. Set ACL and ACT based upon the projected equilibrium optimum yield. Set the recreational ACT buffer at 8% based on the ACL/ACT control rule, and do not use a commercial ACT.

Year	Stock ACL	Recreational		Commercial	
		ACL	ACT	ACL/Quota	ACT
2015+	4.46	2.72	2.50	1.74	none

Alternative 4. Set ACL and ACT based upon SSC recommendations for ABC, 2015-2017. Set a constant ACL at the lowest ABC recommended by the SSC. Set the recreational ACT buffer at 8% based on the ACL/ACT control rule, and do not use a commercial ACT.

Year	Stock ACL	Recreational		Commercial	
		ACL	ACT	ACL/Quota	ACT
2015+	4.57	2.79	2.57	1.78	none

Alternative 5. Set ACL and ACT based upon SSC recommendations for ABC, 2015-2017. Set the stock ACL = ABC for each year. Set the recreational ACT buffer at 8% based on the ACL/ACT control rule, and do not use a commercial ACT.

Year	ABC/Stock ACL	Recreational		Commercial	
		ACL	ACT	ACL/Quota	ACT
2015	5.21	3.18	2.93	2.03	none
2016	4.75	2.90	2.67	1.85	none
2017+	4.57	2.79	2.57	1.78	none

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