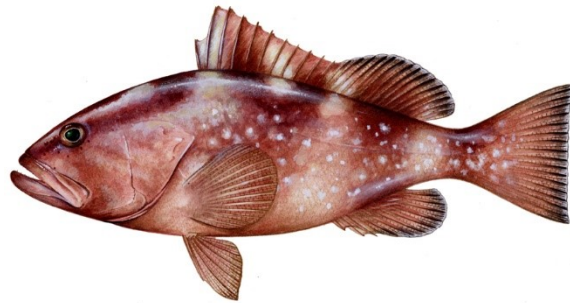


# **Red Grouper Allocations and Catch Levels**



## **Draft Options – Reef Fish Amendment 53**

**January 2020**



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# AMENDMENT 53 TO THE FISHERY MANAGEMENT PLAN FOR THE REEF FISH FISHERY IN THE GULF OF MEXICO

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## Type of Action

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## ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measure
CHTS	Coastal Household Telephone Survey
Council	Gulf of Mexico Fishery Management Council
FES	Fishing Effort Survey
Gulf	Gulf of Mexico
gw	gutted weight
IFQ	individual fishing quota
mp	million pounds
MRIP	Marine Recreational Information Program
MFRSS	Marine Recreational Fisheries Statistics Survey
OFL	overfishing limit
OY	optimum yield
SEDAR	Southeast Data, Assessment and Review
SEFSC	Southeast Fisheries Science Center
SSC	Scientific and Statistical Committee
ww	whole weight

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# CHAPTER 1. INTRODUCTION

## 1.1 Background

For grouper in aggregate, the initial allocation between the commercial and recreational sectors was established in 1990 through Amendment 1 (GMFMC 1989) to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico. The amendment specified a framework procedure for setting the total allowable catch (TAC) to allow for annual management changes. A part of that specification was to establish a species' allocation. These were based on the percentage of total landings during the base period of 1979-1987. For grouper in aggregate, the commercial sector landed 65% and the recreational sector landed 35% of grouper over the base period.

In October 2000, the National Marine Fisheries Service (NMFS) issued a determination that the Gulf of Mexico (Gulf) red grouper stock was overfished and undergoing overfishing. This determination was based on the results of a 1999 red grouper stock assessment (Schirripa et al. 1999), which assessed the status of the stock as of 1997, and several subsequent analyses by the NMFS Southeast Fisheries Science Center (SEFSC) and the Gulf of Mexico Fishery Management Council's (Council) Reef Fish Stock Assessment Panel RFSAP. Secretarial Amendment 1 established a 10-year rebuilding plan for red grouper, based on a three-year interval rebuilding strategy, with the initial acceptable biological catch (ABC) set for 2003-2005 at 6.56 million pounds (mp) gutted weight (gw). A regulatory amendment or plan amendment following a future stock assessment would set the ABC for subsequent intervals.

Due to large increases in catch by the recreational fishery in 2004, the total catch was held at 6.56 mp gw, and new regulations to control harvest in the recreational fishery were implemented in 2005 and 2006. Subsequently, in 2007, the red grouper stock was determined to be rebuilt, in part due to higher than average recruitment and modifications to how natural mortality is calculated (SEDAR 12 2006). In conjunction with the Council's goal to manage all fisheries at levels that optimize yield, Reef Fish Amendment 30B (GMFMC 2008b) set red grouper TAC at 7.57 mp gw, at the constant catch level corresponding to fishing at equilibrium optimum yield (OY). Furthermore, noting that allocation procedures should be regularly reviewed, the Council examined the red grouper allocations. Because grouper was not identified to the individual species level in the commercial fishery until 1987, the reallocation of red grouper was based on the percentage of total landings during the time series 1986-2005, with 2005 being the most recent year of landings data. This resulted in a 76% commercial: 24% recreational allocation. The allocation resulting from Amendment 30B (GMFMC 2008b) was considered an interim allocation that would be in effect until such time the Council, through the recommendations of the Ad Hoc Allocation Committee, could implement a separate amendment to allocate grouper resources between recreational and commercial sectors. The separate amendment, Reef Fish Amendment 28 (GMFMC 2015), ultimately removed red grouper and gag grouper allocation actions and focused exclusively on red snapper.

Reef Fish Amendment 29 (GMFMC 2008a) established an individual fishing quota (IFQ) system for the commercial grouper fisheries, which began January 1, 2010. Under the IFQ program, allocation is distributed on January 1 of each year to IFQ shareholders with red grouper shares.



The amount of allocation distributed is based on the annual quota and the amount of shares possessed in each account (expressed as a percent of the quota). In addition, the IFQ program provides flexibility to accommodate the multi-species nature of the commercial reef fish fishery and to reduce bycatch. Both the red grouper and gag share categories have a multi-use provision that allows a portion of the red grouper quota to be harvested under the gag allocation, or vice versa. Each year, the program assigns a portion of each shareholder's red grouper or gag as a multi-use allocation category multi-use categories. For more information on the IFQ program see the NMFS's Southeast Regional Office webpage on limited access programs at <http://portal.southeast.fisheries.noaa.gov/cs/main.html>.

The stock status of Gulf red grouper was evaluated in the Southeast Data Assessment Review (SEDAR) 42 stock assessment in 2015. The Council's Scientific and Statistical Committee (SSC) reviewed the assessment results at its January 2016 meeting and agreed with the determination that red grouper was not overfished or experiencing overfishing. However, overfishing limit (OFL) and ABC recommendations from the 2015 stock assessment were increases that exceeded observed harvest levels over the management history of this species (Table 1.1.1), and were largely driven by increases in estimates of historical discards. The increase in discard estimates effectively increased the estimate of stock productivity, leading to lower mortality estimates for a given harvest level. The projected yields from SEDAR 42 2015 assumed recruitment levels equivalent to the long-term average; however, red grouper recruitment spikes are sporadic, and recent annual recruitment has been generally lower than that suggested by the long-term average (SEDAR 42 2015, NMFS 2018).

**Table 1.1.1.** SEDAR 42 yield projections for red grouper at a constant catch level, averaged over the 2016-2020 time series. OFL and ABC values are in mp gw.

Year	OFL (mp gw)	ABC (mp gw)
2015	8.10	7.93
2016-2020(+)	14.16	13.92

Fishermen expressed their concern about the health of the stock because they were catching red grouper at much lower catch rates than allowed under the condition of the stock estimated through SEDAR 42. Based on this input, the Council requested that NMFS implement an emergency rule to establish a red grouper ACL of 4.6 mp gw or the 2017 total (commercial and recreational) landings of 4.16 mp gw, whichever is lower. They also requested that the SEFSC to conduct an interim analysis for developing updated harvest advice for 2019 (NMFS 2018). This analysis was reviewed by the SSC who concluded the interim analysis was suitable for interim catch advice for the Council and recommended an interim 2019 ACL of 4.6 mp gw. Thus, the 2019 red grouper commercial ACL and ACT were set at 3.16 mp gw and 3.00 mp gw, respectively, and the recreational ACL and ACT at 1.00 mp gw and 0.92 mp gw.

The stock status of Gulf red grouper was last evaluated in the Southeast Data Assessment Review 61 stock assessment (SEDAR 61, 2019). The Council's SSC reviewed the assessment results at its September 2019 meeting and agreed with the determination that red grouper was not overfished or experiencing overfishing. The SSC noted that, with an end year of 2017 used in

SEDAR 61, the stock determination does not account for the 2018 red tide episodic mortality event in the eastern Gulf, and the SSC recommended the decision table from the stock assessment presentation be conveyed to the Council to illustrate the probabilistic risk of a given catch level, given an assumption about the severity of the 2018 red tide.

### *Red Grouper Recreational Data and Recalibration*

The Access Point Angler Intercept Survey (APAIS) began incorporating a new survey design in 2013. This new design addresses concerns regarding the validity of the survey approach, specifically that trips recorded during a given time period are representative of trips for a full day (Foster et al. 2018). The more complete temporal coverage with the new survey design provides for consistent increases or decreases in APAIS angler catch rate statistics, which are used in stock assessments and management, for at least some species (NOAA Fisheries 2019).

The Marine Recreational Information Program (MRIP) transitioned from the legacy Coastal Household Telephone Survey (CHTS) to a new mail Fishing Effort Survey (FES) beginning in 2015, and in 2018, the FES replaced the CHTS. Both survey methods collect data needed to estimate marine recreational fishing effort (number of fishing trips) by shore and private/rental boat anglers on the Atlantic and Gulf coasts. The CHTS used random-digit dialing of homes in coastal counties to contact anglers. The new mail-based FES uses angler license and registration information as one way to identify and contact anglers (supplemented with data from the U.S. Postal Service, which includes virtually all U.S. households). Because the FES and CHTS are so different, NMFS conducted side-by-side testing of the two methods from 2015 to 2018; the concurrent samples were then compared and calibrated.

Early studies indicated, and subsequent follow-up has confirmed, that, in general, total recreational fishing effort estimates for the FES are higher — and in some cases substantially higher — than the CHTS estimates (NOAA Fisheries 2019). This is because the FES is designed to more accurately measure fishing activity than the CHTS, not because there was a sudden rise in fishing effort. NMFS developed a calibration model to adjust historic effort estimates, so they can be accurately compared to new estimates from the FES. Higher effort does not necessarily mean there are fewer fish to catch.

An update to the weight estimation metrics for red grouper for the recreational sector was finalized following the completion of the SEDAR 61 stock assessment. This data update modifies the recreational data from what was used in SEDAR 61, although the assessment model input recreational landings and discards as numbers of fish, not as weights. In SEDAR 61, the shore mode was excluded from recreational analyses in the assessment because of very sporadic landings throughout the time series combined with the exceptionally low probability of harvesting a legal (20 inches TL) size red grouper via that mode. As such, the best scientific information available are the Accumulated Landings System/Individual Fishing Quota (commercial) that includes FES-adjusted MRIP (recreational, excluding the shore mode) data for determining sector allocations, per the Southeast Fisheries Science Center. These datasets are also used to monitor the quotas during all fishing seasons, including red grouper.

At the October 2019 Council meeting, the Council discussed the implications of the FES-adjusted MRIP recreational data on allocation. Given that Reef Fish Amendment 30B used the SEDAR 12 2006 stock assessment and MRFSS data for the recreational sector in determining the sector allocations, the Council requested that the SSC review red grouper projections for the OFL and ABC using the best available landings data and directed staff to begin work on a plan amendment to update the red grouper allocation and establish catch levels based on the best available landings data.

## **1.2 Purpose and Need**

The purpose is to revise the red grouper allocation between the commercial and recreational sectors using the best scientific information available and to modify the total and sector annual catch limits based on results of the SEDAR 61 2019 stock assessment and subsequent OFL and ABC recommendations from the SSC.

The need is to use the best scientific information available for Gulf red grouper sector allocations and annual catch limits, ensuring that the historical participation by the recreational and commercial sectors are accurately reflected and that recreational catch levels are consistent with the data used to monitor recreational landings and trigger accountability measures.

## CHAPTER 2. MANAGEMENT ALTERNATIVES

### 2.1 Action 1 – Revise Sector Allocations for Gulf of Mexico (Gulf) Red Grouper

**Alternative 1:** No Action – Maintain the sector allocations of the acceptable biological catch (ABC) for Gulf red grouper between the commercial and recreational sectors. The allocation was derived from the average landings using Marine Recreational Fisheries Statistics Survey (MRFSS) data during the years 1986 through 2005, established in Reef Fish Amendment 30B. The allocations for red grouper are 76% commercial and 24% recreational.

**Alternative 2:** Revise the allocation of acceptable biological catch (ABC) between the recreational and commercial sectors, as the average landings using Fishing Effort Survey-adjusted Marine Recreational Information Program (MRIP-FES) data during the years 1986 through 2005, based on the Southeast Fisheries Science Center (SEFSC) Annual Catch Limit (ACL) monitoring datasets. The allocations for red grouper would be 59.3% commercial and 40.7% recreational.

**Alternative 3:** Revise the allocation of ABC between the recreational and commercial sectors, as the average landings using MRIP-FES data during the years 1986 through 2009, based on the SEFSC ACL monitoring datasets. The allocations for red grouper would be 60.5% commercial and 39.5% recreational.

**Alternative 4:** Revise the allocation of ABC between the recreational and commercial sectors, as the average landings using MRIP-FES data during the years 1986 through 2018, based on the SEFSC ACL monitoring datasets. The allocations for red grouper would be 59.7% commercial and 40.3% recreational.

#### **Discussion:**

The status quo, **Alternative 1**, would maintain the allocation established in Amendment 30B to the Fishery Management Plan (FMP) for Reef Fish Resources in the Gulf of Mexico (Reef Fish FMP; GMFMC 2008b), with commercial and recreational allocations of the red grouper stock ACL divided at 76% and 24%, respectively. **Alternative 1** uses MRFSS landings data from SEDAR 12 2016; **Alternatives 2-4** use MRIP-FES landings from the SEFSC ACL monitoring datasets. When Reef Fish Amendment 30B (GMFMC 2008b) was developed, the sector allocations in **Alternative 1** were based on all available years during which grouper were identified by species and also on the longest and most robust time series for landings at the time (1986-2005). A long-term time series reduces the influence of short-term shifts in landings resulting from changes in recruitment or regulations. **Alternative 2** would base the commercial and recreational allocations of red grouper on landings from the same timeframe as used in Reef Fish Amendment 30B (GMFMC 2008b), 1986 through 2005, but use the SEFSC ACL monitoring dataset<sup>1</sup>, which is considered by NMSF to represent the best scientific information

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<sup>1</sup> Dates for when data sources were accessed are noted in Table 2.1.

available. By using the SEFSC ACL monitoring dataset, **Alternative 2** best reflects the landings from each sector from 1986-2005. **Alternative 3** would base the commercial and recreational allocations on landings from the timeframe 1986 through 2009, prior to implementation of the commercial IFQ program for groupers established in Amendment 29 to the Reef Fish FMP (GMFMC 2008a). **Alternative 4** would base the commercial and recreational allocations on landings from the timeframe 1986 through 2018, which incorporates the longest time period of landings currently available. While the commercial and recreational allocations were in effect for the timeframe 2010-2018, the recreational ACL has only been exceeded in 2013, and was subject to in-season closures in 2014 and 2015. The various time series under consideration have relatively small differences in sector allocations (at most, 1.2%). If the SEFSC ACL dataset is used, the time series of landings does not greatly impact the sector allocations for red grouper. The difference across commercial and recreational allocations from **Alternative 1** to **Alternatives 2-4** is, at most, 16.7%, shifting allocation from the commercial sector to the recreational sector to account for an increase in the estimated historical harvests attributable to the recreational sector.

**Table 2.1.1.** Commercial and recreational landings for Gulf red grouper in pounds gutted weight from SEDAR 12 (MRFSS) and the SEFSC ACL monitoring dataset (MRIP-FES).

Year	SEDAR 12 Landings		SEFSC ACL Monitoring Dataset Landings	
	Comm	Rec	Comm	Rec
-				
1986	6,312,986	2,400,380	6,222,162	3,348,897
1987	6,717,890	1,464,710	6,567,225	2,495,130
1988	4,742,496	2,476,070	4,559,441	4,652,818
1989	7,367,911	2,761,150	7,270,424	7,632,792
1990	4,809,282	1,131,710	4,744,711	3,565,320
1991	5,094,501	1,775,110	5,071,083	3,755,576
1992	4,463,277	2,658,180	4,456,473	6,046,978
1993	5,379,626	2,091,160	6,364,065	4,057,934
1994	4,902,862	1,808,240	4,890,106	3,827,267
1995	4,746,140	1,862,570	4,652,487	3,496,544
1996	4,454,146	893,755	4,336,214	910,313
1997	4,848,486	562,328	4,673,786	1,142,958
1998	3,948,566	643,058	3,703,816	1,513,890
1999	5,974,706	1,152,810	5,800,592	3,428,553
2000	5,838,300	2,107,730	5,702,622	4,242,231
2001	5,964,506	1,327,770	5,802,442	2,435,456
2002	5,907,248	1,611,110	5,791,795	3,172,348
2003	4,937,970	1,275,830	4,832,294	2,201,496
2004	5,749,039	3,000,140	5,635,577	7,983,239
2005	5,410,594	1,630,140	5,380,603	3,081,979
2006			5,109,824	2,655,065
2007			3,650,777	2,031,867

<b>2008</b>			4,748,224	1,604,398
<b>2009</b>			3,698,227	1,600,063
<b>2010</b>			2,910,970	1,963,762
<b>2011</b>			4,783,668	1,534,113
<b>2012</b>			5,219,133	4,131,722
<b>2013</b>			4,599,001	4,990,310
<b>2014</b>			5,601,905	5,368,916
<b>2015</b>			4,798,007	3,790,853
<b>2016</b>			4,497,582	2,632,718
<b>2017</b>			3,328,271	1,692,428
<b>2018</b>			2,363,280	2,053,446
<b>Option 1 (1986-2005)</b>	76%	24%		
<b>Option 2 (1986-2005)</b>			59.3%	40.7%
<b>Option 3 (1986-2009)</b>			60.5%	39.5%
<b>Option 4 (1986-2018)</b>			59.7%	40.3%

Source: SEDAR 12 Gulf of Mexico Red Grouper (<http://sedarweb.org/sedar-12>). 1986-2009 landings, SEFSC Commercial ACL dataset (11/15/19) and 2010-2018 landings, the IFQ database (accessed 8/19/19). SEFSC MRIP-FES Recreational dataset (11/26/19).

## 2.2 Action 2 – Modify the Gulf Red Grouper Overfishing Limit (OFL), Acceptable Biological Catch (ABC), ACLs, and Annual Catch Targets (ACTs)

**Alternative 1:** No Action – Maintain the current OFL, ABC, ACLs, and ACTs with current commercial and recreational buffers between the respective catch limits. The commercial buffer is 5%, and the recreational buffer is 8%.

	OFL	ABC	Total ACL	Comm ACL	Rec ACL	Comm ACT	Rec ACT
<b>Current</b>	14.16	13.92	4.16	3.16	1.00	3.00	0.92
<b>MRIP-FES equivalent</b>			(5.26)		(2.10)		(1.93)

\* Values are in millions of pounds, gutted weight.

**Alternative 2:** Revise the OFL and ABC as recommended by the Scientific and Statistical Committee (SSC) and consistent with the allocation selected in Action 1. The total ACL equals the ABC. Maintain the current buffer between the ACL and ACT for each sector. The commercial buffer is 5%, and the recreational buffer is 8%.

Action 1	OFL	ABC	Total ACL	Comm ACL	Rec ACL	Comm ACT	Rec ACT
<b>Alternative 2</b>	4.66	4.26	4.26	2.53	1.73	2.40	1.59
<b>Alternative 3</b>	4.70	4.30	4.30	2.60	1.70	2.47	1.56
<b>Alternative 4</b>	4.67	4.28	4.28	2.56	1.72	2.43	1.58

\* Values are in millions of pounds, gutted weight and in MRIP-FES currency.

**Alternative 3:** Revise the OFL and ABC as recommended by the SSC and consistent with the allocation selected in Action 1. The total ACL equals the ABC. Apply the ACL/ACT Control Rule to revise the buffer between the ACL and ACT for each sector. The commercial buffer is 0%, and the recreational buffer is 9%.

Action 1	OFL	ABC	Total ACL	Comm ACL	Rec ACL	Comm ACT	Rec ACT
<b>Alternative 2</b>	4.66	4.26	4.26	2.53	1.73	2.53	1.57
<b>Alternative 3</b>	4.70	4.30	4.30	2.60	1.70	2.60	1.55
<b>Alternative 4</b>	4.67	4.28	4.28	2.56	1.72	2.56	1.57

\* Values are in millions of pounds, gutted weight and in MRIP-FES currency.

### Discussion:

The status quo, **Alternative 1**, would maintain the OFL, ABC, ACLs, and ACTs set in the April 2019 framework action (GMFMC 2019), with the total ACL based on the reported landings from the 2017 fishing year. Until the framework action could be completed, an emergency rule (GMFMC 2019a) was in place, which also based the total ACL on the reported landings from the



2017 fishing year. The OFL and ABC shown in **Alternative 1** were determined by the SSC based on the SEDAR 42 (2015) stock assessment of Gulf red grouper. The ACL in **Alternative 1** was determined by the Council, which set the ACL equivalent to the landings from the 2017 fishing year (GMFMC 2019). The buffers between the commercial and recreational ACLs and ACTs were calculated using the Council's ACL/ACT Control Rule following SEDAR 42 2015. Currently, a 5% buffer is used for the commercial sector of red grouper, and a 8% buffer is used for the recreational sector of red grouper.

Both **Alternatives 2** and **3** would revise the OFL and ABC based on the SEDAR 61 2019 stock assessment, with those catch limits influenced by the sector allocation alternatives presented in Action 1. These sector allocations are determined by examining the average percentage of commercial and recreational landings for the prescribed time periods using the SEFSC ACL monitoring dataset, which was determined by the SEFSC to be the best scientific information available. The OFLs and ABCs for **Alternatives 2** and **3** (associated with Alternatives 2-4 from Action 1) were recommended by the SSC at their January 2019 meeting<sup>2</sup>. These values are identical under **Alternatives 2** and **3**, for the respective options from Action 1, as are the total ACL values.

The Council's ACL/ACT Control Rule is used to determine the buffer (if any) between the ACL and the ACT, using a four-year reference period of recent landings from each sector. This control rule has been applied to **Alternative 2** (GMFMC 2016) and **Alternative 3** (this document; 2020). The reference period selected was 2015 – 2018, since 2019 landings for the recreational sector are incomplete (MRIP wave 6 data are still outstanding as of 17 January 2020). Recreational landings for 2018 are still considered preliminary by the National Marine Fisheries Service.

**Alternative 2** would use a buffer between the commercial ACL and ACT of 5%, and a buffer between the recreational ACL and ACT of 8%, based on the application of the Council's ACL/ACT Control Rule following SEDAR 42 in 2015. The application of the ACL/ACT Control Rule in **Alternative 2** used data from the Marine Recreational Fisheries Statistics Survey (MRFSS) for the recreational sector, which is no longer in use for quota monitoring, but represented the best scientific information available at the time it was applied in 2015. Data from the individual fishing quota (IFQ) program for red grouper were used for the commercial sector; these data currently represent the best scientific information available for this sector. Normally, a sector managed using an IFQ program without a quota overage during its reference period would yield a 0% buffer from the ACL/ACT Control Rule; however, this tool is advisory only and does not account for the overage allowance or gag grouper multi-use provisions in the IFQ program. As such, following the SEDAR 42 stock assessment (2015), the Council set the buffer for the recreational sector using the ACL/ACT Control Rule (8%) and the commercial buffer at 5%, which accounts for the multi-use provision in the gag grouper commercial IFQ program (GMFMC 2016). This provision is to ensure that there may be allocation to use if either gag or red grouper is landed as incidental catch.

**Alternative 3** would use a buffer between the commercial ACL and ACT of 0%, and a buffer between the recreational ACL and ACT of 9%, based on the application of the Council's

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<sup>2</sup> <http://gulfcouncil.org/meetings/ssc/archive/>



ACL/ACT Control Rule following SEDAR 61 in 2019. The data used by year for applying the ACL/ACT Control Rule for Alternative 3 are shown in Table 2.2.1, and the tool as applied to each fishing sector is shown in Appendices A (recreational) and B (commercial). **Alternative 3** represents a strict application of the ACL/ACT Control Rule for the prescribed reference period, and does not account for multi-use provisions in the commercial gag grouper IFQ program. With a commercial buffer of 0%, the gag grouper multi-use allocation would be zero.

**Table 2.2.1.** ACL/ACT Control Rule data inputs for Alternative 3 of Action 2. “PSE” stands for proportional standard error, which is a measure of the precision of the estimated landings for a given year.

ACL/ACT Control Rule Data							
Year	Sector	Landings	PSE	ACL	Exceeded ACL?	Buffer	Data Used
2015	Commercial	4,798,007	0 - IFQ	5,270,000	No	0%	IFQ
2016	Commercial	4,497,582	0 - IFQ	7,780,000	No		IFQ
2017	Commercial	3,328,271	0 - IFQ	7,780,000	No		IFQ
2018	Commercial	2,363,280	0 - IFQ	7,780,000	No		IFQ
Year	Sector	Landings	PSE	ACL	Exceeded ACL?	Buffer	Data Used
2015	Recreational	1,847,573	16.2	1,900,000	No	9%	MRFS
2016	Recreational	1,403,236	21.6	2,580,000	No		MRIP-APAS
2017	Recreational	807,085	21	2,580,000	No		MRIP-APAS
2018	Recreational	872,045	21.5	2,580,000	No		MRIP-APAS

Source: SERO ACL Monitoring dataset, retrieved 17 January 2020 (recreational); SEFSC Commercial ACL dataset, retrieved 15 November 2019 (commercial).

Note: The recreational sector landings are in MRFS for 2015 and in MRIP-APAS for 2016-2018 to allow for comparison with the ACL, which was established in MRIP-APAS units.

The current commercial ACT and commercial ACL under **Alternative 1** are greater than those under either **Alternative 2** or **3**. While the current recreational ACT and commercial ACL under **Alternative 1** are lower than those under **Alternative 2** or **3**, the MRIP-FES equivalent value of the current recreational ACT and recreational ACL is greater than those under **Alternative 2** or **3**. Similarly, while the total ACL under **Alternative 1** is lower than those under **Alternative 2** or **3**, the MRIP-FES equivalent value of the total ACL is greater than those under **Alternative 2** or **3**.

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## APPENDIX A. ACL/ACT CONTROL RULE FOR THE RECREATIONAL SECTOR

As of 01/17/2020				Red Grouper	
ACL/ACT Buffer Spreadsheet		version 4.1 - April 2011		Sector: Recreational	
sum of points	2			Data: 2015-2018	
max points	5.0			Buffer between ACL and ACT (or ABC and ACL)	
Min. Buffer	0	min. buffer	User adjustable	Unweighted	8
Max Unw. Buff	19	max unwtd. Buff		Weighted	9
Max Wtd Buff	25	max wtd. buffer	User adjustable		
	Component	Element score	Element	Selection	Element result
	Stock assemblage	0	This ACL/ACT is for a single stock.	x	0
		1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
	Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years	x	0
		1	Catch limit has been exceeded 2 or more times in last 4 years		
		For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL		0.0	
		Not applicable (there is no catch limit)			
			Apply this component to recreational fisheries, not commercial or IFQ fisheries		
	Precision of Landings Data Recreational	0	Method of absolute counting		2
		1	MRIP proportional standard error (PSE) <= 20		
		2	MRIP proportional standard error (PSE) > 20	x	
		Not applicable (will not be included in buffer calculation)			
			Apply this component to commercial fisheries or any fishery under an IFQ program		
	Precision of Landings Data Commercial	0	Landings from IFQ program		not applicable
		1	Landings based on dealer reporting		
		2	Landings based on other		
		Not applicable (will not be included in buffer calculation)		x	
	Timeliness	0	In-season accountability measures used or fishery is under an IFQ	x	0
		1	In-season accountability measures not used		
				Sum	2
Weighting factor					
	Element weight	Element		Selection	Weighting
	Overfished status	0	1. Stock biomass is at or above B <sub>OY</sub> (or proxy).		0.2
		0.1	2. Stock biomass is below B <sub>OY</sub> (or proxy) but at or above B <sub>MSY</sub> (or proxy).		
		0.2	3. Stock biomass is below B <sub>MSY</sub> (or proxy) but at or above minimum stock size threshold (MSST).	x	
		0.3	4. Stock is overfished, below MSST.		
		0.3	5. Status criterion is unknown.		

\*2015-2018 landings data from NOAA Fisheries ACL Monitoring Dataset. Accessed January 17, 2020.

ACL/ACT Control Rule Data							
Year	Sector	Landings	PSE	ACL	Exceeded ACL?	Buffer	Data Used
2015	Recreational	1,847,573	16.2	1,900,000	No	9%	MRFSS
2016	Recreational	1,403,236	21.6	2,580,000	No		MRIP-AP AIS
2017	Recreational	807,085	21	2,580,000	No		MRIP-AP AIS
2018	Recreational	872,045	21.5	2,580,000	No		MRIP-AP AIS

Source: Source: SERO ACL Monitoring dataset, retrieved 17 January 2020 (recreational).

Note: The recreational sector landings are in MRFSS for 2015 and in MRIP-AP AIS for 2016-2018 to allow for comparison with the ACL, which was established in MRIP-AP AIS units.

## APPENDIX B. ACL/ACT CONTROL RULE FOR THE COMMERCIAL SECTOR

As of 01/17/2020				<b>Red Grouper</b>	
<b>ACL/ACT Buffer Spreadsheet</b>		version 4.1 - April 2011		<b>Sector: Commercial</b>	
sum of points	0			<b>Data: 2015-2018</b>	
max points	5.0			Unweighted	0
		Buffer between ACL and ACT (or ABC and ACL)		Weighted	<b>0</b>
<b>Min. Buffer</b>	<b>0 min. buffer</b>	User adjustable			
Max Unw. Buff	19 max unwt. Buff				
<b>Max Wtd Buff</b>	<b>25 max wtd. buffer</b>	User adjustable			

Component	Element score	Element	Selection	Element result
Stock assemblage	0	This ACL/ACT is for a single stock.	x	0
	1	This ACL/ACT is for a stock assemblage, or an indicator species for a stock assemblage		
Ability to Constrain Catch	0	Catch limit has been exceeded 0 or 1 times in last 4 years	x	0
	1	Catch limit has been exceeded 2 or more times in last 4 years		
		For the year with max. overage, add 0.5 pts. For every 10 percentage points (rounded up) above ACL	0.0	
		Not applicable (there is no catch limit)		
		Apply this component to recreational fisheries, not commercial or IFQ fisheries		
Precision of Landings Data Recreational	0	Method of absolute counting		not applicable
	1	MRIP proportional standard error (PSE) <= 20		
	2	MRIP proportional standard error (PSE) > 20		
		Not applicable (will not be included in buffer calculation)	x	
		Apply this component to commercial fisheries or any fishery under an IFQ program		
Precision of Landings Data Commercial	0	Landings from IFQ program	x	0
	1	Landings based on dealer reporting		
	2	Landings based on other		
		Not applicable (will not be included in buffer calculation)		
Timeliness	0	In-season accountability measures used or fishery is under an IFQ	x	0
	1	In-season accountability measures not used		
			Sum	0

Weighting factor				
	Element weight	Element	Selection	Weighting
Overfished status	0	1. Stock biomass is at or above $B_{OY}$ (or proxy).		0.2
	0.1	2. Stock biomass is below $B_{OY}$ (or proxy) but at or above $B_{MSY}$ (or proxy).		
	0.2	3. Stock biomass is below $B_{MSY}$ (or proxy) but at or above minimum stock size threshold (MSST).	x	
	0.3	4. Stock is overfished, below MSST.		
	0.3	5. Status criterion is unknown.		

\*2015-2018 landings data from NOAA Fisheries ACL Monitoring Dataset. Accessed January 17, 2020.

ACL/ACT Control Rule Data							
Year	Sector	Landings	PSE	ACL	Exceeded ACL?	Buffer	Data Used
2015	Commercial	4,798,007	0 - IFQ	5,270,000	No	0%	IFQ
2016	Commercial	4,497,582	0 - IFQ	7,780,000	No		IFQ
2017	Commercial	3,328,271	0 - IFQ	7,780,000	No		IFQ
2018	Commercial	2,363,280	0 - IFQ	7,780,000	No		IFQ

Source: SEFSC Commercial ACL dataset, retrieved 15 November 2019 (commercial).