

**Public Hearing Summary  
for  
Amendment 41 to the Fishery Management Plan for  
the Snapper Grouper Fishery of the South Atlantic  
Region**



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## Why is the South Atlantic Council considering action?

In 2012, the Comprehensive Annual Catch Limits (ACL) Amendment (SAFMC 2011) allocated the mutton snapper Acceptable Biological Catch (ABC) between the South Atlantic and Gulf of Mexico Councils based on the Florida Keys (Monroe County) jurisdictional boundary. The South Atlantic Council received 82% of the ABC and the Gulf Council received 18% of the ABC (established using 50% of average landings from 1990-2008 + 50% of average landings from 2006-2008). The following parameters (pounds whole weight; lbs ww) were implemented for mutton snapper in the South Atlantic through the Comprehensive ACL Amendment:

Parameter	Value
Overfishing Limit (OFL)	1,515,300
Acceptable Biological Catch (ABC)	926,600
Annual Catch Limit (ACL)	926,600
Commercial ACL	157,707
Recreational ACL	768,893
Recreational Annual Catch Target (ACT)	668,937

The current commercial ACL is 157,743 lbs ww and the recreational ACL is 768,857 lbs ww (*NOTE: The commercial allocation in the Comp ACL was 17.02% and the recreational allocation was 82.98%. However the ACLs that were implemented were calculated using this allocation to 6 decimal places instead of 2).*

In 2015, an update to the stock assessment for mutton snapper in the southeastern U.S. was conducted with data through 2013 (SEDAR 15A Update 2015). The South Atlantic Council needs to take action to implement biological benchmarks and fishing levels recommended by the latest stock assessment update (SEDAR 15A Update 2015). However, **based on improvements to the modeling approach, the 2015 assessment estimated a smaller adult population compared to the 2008 assessment. Because of this finding the assessment recommends a lower ABC to maintain sustainable harvest.** Consequently, the Council may modify existing management measures for mutton snapper to achieve the desired level of harvest.

### ***South Atlantic Fishery Management Council***

- Responsible for conservation and management of fish stocks in the area comprising 3 to 200 nautical miles off the coasts of North Carolina, South Carolina, Georgia, and Florida through the Atlantic side of Key West.
- The South Atlantic Council consists of 13 voting members appointed by the Secretary of Commerce and 4 non-voting members. The Snapper Grouper Committee of the South Atlantic Council also includes two voting seats for representatives from the Mid-Atlantic Fishery Management Council.
- Develop management plans/amendments and recommends regulations to NMFS for implementation

**This Public Hearing Summary includes the actions and alternatives, a brief discussion for each action, and a summary of the analysis.**

**For full analysis of potential effects of the actions, please see the Draft Amendment 41 (full document) available <http://safmc.net/meetings/public-hearing-and-scoping-meeting-schedule#ph3>**

# What Actions Are Being Proposed in this Amendment?

Amendment 41 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) proposes the following 8 actions for mutton snapper in the South Atlantic Region:

## 1. Specify maximum sustainable yield (MSY)

**Currently:** not specified

**Preferred Alternative 2.** 912,500 pounds whole weight (lbs ww)

## 2. Specify minimum stock size threshold (MSST)

**Currently:** not specified

**Preferred Alternative 3.**  $MSST = 75\% SSB_{MSY} = 3,486,900$  lbs ww

## 3. Revise annual catch limits (ACLs) and optimum yield (OY) (see Table S-1)

**Currently:**  $ACL = OY = ABC = 926,600$  lbs ww

Commercial ACL = 157,743 lbs ww

Recreational ACL = 768,857 lbs ww

**Preferred Sub-alternative 2a.**  $ACL = OY = ABC = 587,633$  lbs ww for 2017.

Commercial ACL = 100,015 lbs ww (for 2017)

Recreational ACL = 116,127 fish (for 2017)

## 4. Revise the recreational annual catch target (ACT)

**Currently:**  $ACT = \text{recreational ACL} * (1 - PSE)$  or  $ACL * 0.5$ , whichever is greater = 668,906 lbs ww

**Preferred Sub-alternative 2b.**  $ACT = 85\% \text{ recreational ACL} = 98,708$  fish

## 5. Modify the minimum size limit

**Currently:** minimum size limit = 16 inches total length (TL)

**Preferred Alternative 3.** 18 inches TL

## 6. Designate a spawning season for regulatory purposes

**Currently:** commercial restrictions apply in May-June :10 fish/person/day or 10/fish/trip, whichever is more restrictive.

**Preferred Sub-alternative 2a.** For regulatory purposes, designate the following April-June as “spawning months”. The remainder of the year would be the “regular season.”

## **7. Modify the recreational bag limit**

**Currently:** 10 fish/person/day, included in the 10-snapper aggregate bag limit.

**Preferred Sub-alternative 4b.** Retain mutton snapper within the recreational 10 snapper aggregate bag limit in the South Atlantic, but specify bag limit of 3 fish/person/day within the aggregate bag limit year round.

## **8. Modify the commercial trip limit**

**Currently:** Commercial restrictions apply May through June - *10 fish/person/day or 10/fish/trip, whichever is more restrictive.*

**Preferred Sub-alternative 2a.** Establish a commercial trip limit of 300 pounds for mutton snapper during the “regular season” (i.e., non-spawning months) in the South Atlantic.

**Preferred Sub-alternative 3b.** Specify a commercial trip limit for mutton snapper during the “spawning months” in the South Atlantic of 3 fish/person/day

# What is the Acceptable Biological Catch Recommendation for Mutton Snapper?

## *What is Acceptable Biological Catch?*

### **ABC = Acceptable Biological Catch**

The ABC is the maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

An update to the stock assessment for mutton snapper in the southeastern U.S. (SEDAR 15A Update 2015) was conducted in 2015 with data through 2013. The Scientific and Statistical Committee (SSC) reviewed the results at their April 28-30, 2015 meeting and made the following fishing level recommendations for mutton snapper in the South Atlantic and Gulf of Mexico:

Mutton Snapper recommendations from SEDAR 15A Update (2015).

Criteria	Deterministic	Probabilistic
Overfished evaluation	Not overfished: $SSB/SSB_{F30\%}=1.13$	
Overfishing evaluation	Not overfishing: $F/F_{30\%SPR}=0.65$	
MFMT ( $F_{30\%SPR}$ )	0.18	
$SSB_{30\%SPR}$ (lbs females)	4,649,200	
MSST (lbs females)	4,137,700	
Y at $F_{30\%SPR}$ (MSY proxy, lbs)	912,500	
Y at $F_{40\%SPR}$ (lbs)	874,000	
ABC Control Rule Adjustment		20%
P-Star		30%

## Overfishing Limit (OFL) RECOMMENDATIONS

Year	Landed (lbs)	Discards (lbs)	Landed (numbers)	Discards (numbers)
2014	664,900	30,708	113,300	17,341
2015	664,900	44,496	125,245	25,215
2016	713,492	54,005	148,995	29,298
2017	751,711	55,962	164,150	29,660
2018	793,823	56,994	173,656	30,071
2019	835,318	58,170	180,716	30,430
2020	850,077	58,857	184,868	30,780

## ABC RECOMMENDATIONS ( $P^* = 0.03$ )

Year	Landed (lbs)	Discards (lbs)	Landed (numbers)	Discards (numbers)
2014	664,900	30,700	113,300	17,300
2015	664,900	44,800	125,800	25,400
2016	692,000	52,800	145,400	28,600
2017	717,200	53,700	157,500	28,400
2018	746,800	53,900	164,500	28,300
2019	774,400	54,400	169,300	28,300
2020	798,300	54,500	172,700	28,300

# Proposed Actions and Alternatives

## ACTION 1. Specify maximum sustainable yield (MSY) for mutton snapper in the South Atlantic Region

**Alternative 1 (No Action).** The Maximum Sustainable Yield (MSY) for mutton snapper in the South Atlantic equals the yield produced by  $F_{MSY}$ .  $F_{30\%SPR}$  is used as the  $F_{MSY}$  proxy. The value is not specified.

**Preferred Alternative 2.** Maximum sustainable yield (MSY) equals the yield produced by  $F_{MSY}$  or the  $F_{MSY}$  proxy. MSY and  $F_{MSY}$  are recommended by the most recent SEDAR/SSC.

Alternatives	Equation	$F_{MSY}$	MSY Values (lbs whole weight)
Alternative 1 (No Action)	MSY equals the yield produced by $F_{MSY}$ . $F_{30\%SPR}$ is used as the $F_{MSY}$ proxy.	$F_{30\%SPR}$	Not specified
Preferred Alternative 2	MSY equals the yield produced by $F_{MSY}$ or the $F_{MSY}$ proxy. MSY and $F_{MSY}$ are recommended by the most recent SEDAR/SSC.	$F_{30\%SPR}$	912,500

### What is MSY and why does it need to be specified for mutton snapper?

Maximum Sustainable Yield (MSY) for snapper grouper species was initially specified in Amendment 11 (SAFMC 1998). At that time, MSY was unknown for mutton snapper due to lack of data. When a stock assessment is conducted, however, the model produces estimates of MSY. The SEDAR 15A (2008) assessment produced an MSY estimate that was not officially adopted, however. The South Atlantic Council needs to take action to adopt the new definition and value for MSY that resulted from the updated assessment (SEDAR 15A update 2015). Selecting a definition for MSY would allow for subsequent revisions to that value when the stock assessment is updated or a new

#### What is Maximum Sustainable Yield?

**MSY = Maximum Sustainable Yield**  
MSY is the largest long-term average catch that can be taken from a stock under prevailing ecological and environmental conditions.

assessment is performed without the Council having to take action. **Preferred Alternative 2** would provide that option. Under **Alternative 1 (No Action)**, a yield (poundage) for MSY is not specified since one was not specified in Amendment 11 (SAFMC 1998). **Alternative 2 (Preferred)** would allow for periodic adjustments of  $F_{MSY}$  and MSY values based on estimates from new assessments without the need for a plan amendment. As neither alternative under this action would have direct effects on resource harvest or use, biological effects would be neutral. However, **Alternative 2 (Preferred)**, which is recommended in the most recent SEDAR and by the SSC, has a better scientific basis and thus provides a more solid ground for management actions that have economic and social implications.

### *Why does the new assessment show a smaller population of mutton snapper than the previous one?*

The methods used in the two assessments are very different making direct comparisons difficult. A few items were noted that could have contributed to the differences:

- The Marine Recreational Information Program (MRIP)-calibrated landings used in the update are very different (especially in the early years of the time series) from the landings stream in the original assessment.
- Also, the update included several more years of data (7 years) than what a typical update usually includes.
- In addition, the original assessment was done with few samples for growth and reproductive parameters.

In short, there are probably numerous factors contributing to the difference in the reference points and the projected levels of catch.

For this species it is important to note that, because of its life history, there can be “hyperstability” in the indices of abundance. Because the bulk of the landings are happening in May and June when mutton are forming spawning aggregations, the catch per unit effort (CPUE) fluctuates little and this may lead to the assumption that catches are sustainable over the long term when in fact they are not. Also, recruitment can be affected by this type of harvest and proactive management measures are needed to prevent overfishing.

#### *What is an Index of Abundance?*

A relative measure of the size of a population or sub-unit of the population, such as a year class. It is usually measured as number (or weight) of **fish** caught per standard unit of **fishing** effort.

## ACTION 2. Specify minimum stock size threshold (MSST) for mutton snapper in the South Atlantic Region

**Alternative 1 (No Action).** The minimum stock size threshold (MSST) for mutton snapper is  $MSST = SSB_{MSY} ((1-M) \text{ or } 0.5)$ , whichever is greater). The value is not specified.

**Alternative 2.** Minimum stock size threshold (MSST) = 50% of  $SSB_{MSY}$

**Preferred Alternative 3.** Minimum stock size threshold (MSST) = 75% of  $SSB_{MSY}$

Alternatives	MSST Equation	M	MSST Values (lbs whole weight)
<b>1 (No Action)</b>	$MSST = SSB_{MSY} ((1-M) \text{ or } 0.5)$ , whichever is greater).	0.11	Not specified
<b>2</b>	$MSST = 50\%$ of $SSB_{MSY}$	0.17	2,324,600
<b>3 (Preferred)</b>	<b><math>MSST = 75\%</math> of <math>SSB_{MSY}</math></b>	<b>0.17</b>	<b>3,486,900</b>

### What is MSST and why does it need to be specified for mutton snapper?

#### What is MSST?

##### **MSST = Minimum Stock Size Threshold**

The MSST corresponds to the level of biomass below which a stock is considered overfished.

If it is determined that a stock's biomass is below the MSST, the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires a rebuilding plan, which could result in harvest reductions.

The SEDAR 15A (2008) assessment produced a MSST estimate that was not officially adopted by the South Atlantic Council, hence, a value has not yet been specified. The assessment update estimated natural mortality (M) for mutton snapper at 0.17. When the natural mortality rate is low (less than 0.25) even small changes in biomass due to natural variations not related to fishing mortality may cause a stock to vary between an overfished or rebuilt condition. When a species is identified as overfished, the Magnuson-Stevens Act requires that a plan be implemented to rebuild the stock.

The South Atlantic Council changed the definition for MSST through Regulatory Amendment 21 (SAFMC 2014) for select snapper grouper species with low natural mortality from  $MSST = SSB_{MSY} * ((1-M) \text{ or } 0.5)$ , whichever is greater) to  $MSST = 75\% SSB_{MSY}$ .

Redefining MSST for these species was done to help prevent unnecessary overfished designations when small drops in biomass are due to natural variation in recruitment or other environmental variables, and ensure that rebuilding plans are applied to stocks when truly

appropriate. The estimated natural mortality for mutton snapper from the stock assessment update is within the range of natural mortality values for species addressed in Regulatory Amendment 21 (0.08 – 0.23).

## **ACTION 3. Revise annual catch limits (ACLs) and optimum yield (OY) for mutton snapper in the South Atlantic Region**

**Alternative 1 (No action).** The current ABC and OY for mutton snapper is 926,600 lbs ww. The current commercial ACL is 157,743 lbs ww and the recreational ACL is 768,857 lbs ww. (NOTE: The commercial allocation in the Comp ACL was 17.02% and the recreational allocation was 82.98%. However the ACLs that were implemented were calculated using this allocation to 6 decimal places instead of 2).

**Preferred Alternative 2.** The jurisdictional allocation for the South Atlantic is 82% of the acceptable biological catch (ABC). Specify annual catch limits (ACLs) and optimum yield (OY) for the South Atlantic using the existing sector allocations (17.02% commercial and 82.98% recreational) and specify the recreational ACL in numbers of fish. The ACLs specified for 2020 would remain in place until modified.

**Preferred Sub-alternative 2a.** ACL = OY = ABC.

**Sub-alternative 2b.** ACL = OY = 95% ABC.

**Sub-alternative 2c.** ACL = OY = 90% ABC.

### ***What are Annual Catch Limits and Accountability Measures and Why are they Required?***

A reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) in 2007 required implementation of new tools to end and prevent overfishing to achieve the OY from a fishery. The tools are annual catch limits (ACLs) and accountability measures (AMs).

Amendment 41 includes alternatives that would revise the current ACLs for mutton snapper.

#### ***What is an Annual Catch Limit?***

##### **ACL = Annual Catch Limit**

An ACL is the level of annual catch of a stock that, if met or exceeded, triggers some corrective action.

#### ***What is an Accountability Measure?***

##### **AM – Accountability Measure**

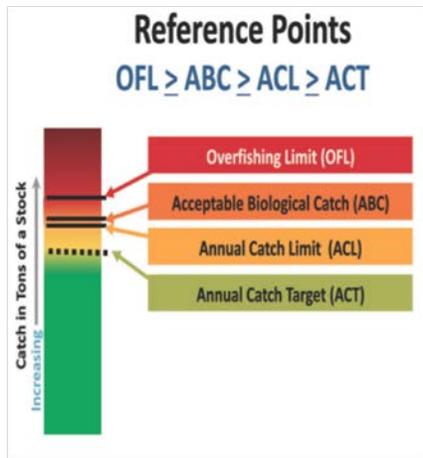
An AM is a corrective action or management control, established by the Council, to prevent ACLs from being exceeded and to correct overages of ACLs if they occur.

##### **Examples**

- *An in-season closure if catch is projected to reach the ACL*
- *Reducing the ACL by an overage that occurred the previous fishing year.*

### ***How Does the South Atlantic Council Determine the Annual Catch Limits?***

ACLs are derived from the overfishing limit (OFL) and the ABC (**Figure S-1**). The South Atlantic Council's SSC determines the OFL from the stock assessment and the ABC (based on



the South Atlantic Council/SSC’s ABC control rule), and recommends those to the South Atlantic Council. The OFL is an estimate of the catch level above which overfishing is occurring. The ABC is defined as the level of a stock or stock complex’s annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty.

**Figure S-1.** The relationship of the reference points to each other.

**Table S-1** shows proposed commercial and recreational ACLs for each of the proposed sub-alternatives under **Preferred Alternative 2**.

**Table S-1.** Proposed acceptable biological catch values and annual catch limits for mutton snapper in the South Atlantic based on **Alternatives 2 (Preferred)-4**.

Preferred Sub-alt 2a - ACL = OY = ABC						
Year	Total ABC (SAtl + Gulf) num	SAtl ABC num	Yield ABC lbs	Comm ACL (lbs)	Comm ACL (num)	Rec ACL (num)
2017	157,500	129,150	587,633	100,015	13,023	116,127
2018	164,500	134,890	612,401	104,231	13,572	121,318
2019	169,300	138,826	634,435	107,981	14,060	124,766
2020	172,700	141,614	654,257	111,354	14,499	127,115

Sub-alt 2b - ACL = OY = 95% ABC						
Year	Total ABC (SAtl + Gulf) num	SAtl ABC num	Yield ABC lbs	Comm ACL (lbs)	Comm ACL (num)	Rec ACL (num)
2017	157,500	122,693	558,251	95,014	12,372	110,321
2018	164,500	128,146	581,781	99,019	12,893	115,252
2019	169,300	131,885	602,713	102,582	13,357	118,528
2020	172,700	134,533	621,544	105,787	13,774	120,759

Sub-alt 2c - ACL = OY = 90% ABC						
Year	Total ABC (SAtl + Gulf) num	SAtl ABC num	Yield ABC lbs	Comm ACL (lbs)	Comm ACL (num)	Rec ACL (num)
2017	157,500	116,235	528,869	90,014	11,721	104,514
2018	164,500	121,401	551,161	93,808	12,215	109,186
2019	169,300	124,943	570,991	97,183	12,654	112,289
2020	172,700	127,453	588,831	100,219	13,049	114,403

## ***Why are the ABC and recreational ACL specified in numbers of fish instead of pounds?***

The South Atlantic Council prefers specifying the recreational ACL in numbers of fish and the commercial ACL in pounds. The rationale is that recreational landings are already tracked in numbers of fish while commercial landings are tracked in pounds. Issues develop, however, when different size limits are considered for management and the commercial and recreational ACLs are in different units. Larger fish weigh more; so, if the size limit is increased, the fish being landed, on average, will also weigh more. If the method for converting between an ACL in pounds and an ACL in numbers does not address the change in average weight, the expected increase in the average weight of landed fish could lead to the poundage associated with the ACL specified in numbers exceeding the ACL expressed in pounds. If the change in weight landed is great enough, the ABC and OFL in pounds could be exceeded.

To avoid these issues, the method described in **Appendix J** in the draft amendment document was used to specify the recreational ABC and ACL for mutton snapper in numbers of fish. This method is designed to keep the numbers of fish harvested constant while allowing the yield to vary based on the possible change in size selectivity (the probability of fish being retained in a fishing gear as a function of the length of the fish) due to changes in the minimum size limit. Specifying the recreational ABC and ACL in numbers results in a lower risk of exceeding the recreational ACL due to an increase in the minimum size limit.

## **ACTION 4. Revise recreational annual catch target (ACT) for mutton snapper in the South Atlantic Region**

**Alternative 1 (No Action).** The current ACT is 668,906 lbs ww and applies to mutton snapper throughout the South Atlantic Council's jurisdiction. The ACT = recreational ACL\*(1-PSE) or ACL\*0.5, whichever is greater, and where Percent Standard Error (PSE) = 13% = average PSE 2005-2009 (for South Atlantic only).

### *What is PSE?*

**PSE = Percent Standard Error.**

The PSE is a measure of precision presented for recreational estimates. The higher the PSE, the less precise the estimate.

**Preferred Alternative 2.** Revise the annual catch target (ACT) for mutton snapper for the recreational sector and specify the recreational ACT in numbers of fish. The ACT for 2020 would remain in place until modified.

**Sub-alternative 2a.** ACT = recreational ACL\*(1-PSE) or ACL\*0.5, whichever is greater.

**Preferred Sub-alternative 2b.** ACT = 85% recreational ACL.

**Sub-alternative 2c.** ACT = 75% recreational ACL.

Year	PSE
2010	10.2
2011	15.2
2012	21.2
2013	15.1
2014	17.9
<b>Average</b>	<b>15.9</b>

### *What are Annual Catch Targets and why are they needed?*

#### *What is ACT?*

**ACT = Annual Catch Target**

An ACT is an amount of annual catch that serves as the management target, set below the annual catch limit to account for management uncertainty.

The National Standard 1 (NS 1) guidelines recommend the use of annual catch targets (ACTs) to prevent annual catch limits (ACLs) from being exceeded. For species without in-season management control, managers may utilize ACTs that are set below ACLs so that catches do not exceed the ACLs. If an ACT is specified as part of the system of accountability

measures (AMs) for mutton snapper, an ACT control rule that accounts for management uncertainty may be utilized for setting the ACT. The objective for establishing an ACT and related AMs is to prevent the ACL from being exceeded. In managing the snapper grouper fishery, however, the South Atlantic Council has chosen not to use ACTs to trigger AMs because it is anticipated that improvements in reporting will reduce management uncertainty. Should the South Atlantic Council, in the future, utilize ACTs

to manage recreational harvest, these values would already have been specified and become part of the regulations.

Since the ACT is typically set lower and would be reached sooner than the ACL for any given species, using an ACT rather than the ACL as a trigger for AMs in the recreational sector may prevent an ACL overage. This more conservative approach would likely help to ensure that recreational data uncertainties do not cause or contribute to excessive ACL overages for vulnerable species. Using recreational ACTs rather than the ACLs to trigger recreational AMs may not eliminate ACL overages completely; however, using such a strategy for the recreational sector may reduce the need to compensate for very large overages.

**Table S-2** shows recreational ACTs for mutton snapper under each of the proposed ACL alternatives from **Action 3**.

**Table S-2.** Proposed recreational annual catch targets (ACTs) in numbers of fish for each of the proposed annual catch limit alternatives under Action 3.

<b>Preferred Sub-alternative 2a (Action 3): ACL = OY = ABC</b>				
<b>Year</b>	<b>Rec ACL (num)</b>	<b>Sub-alt 2a</b>	<b>Pref Sub-alt 2b</b>	<b>Sub-alt 2c</b>
2017	116,127	97,663	98,708	87,095
2018	121,318	102,029	103,121	90,989
2019	124,766	104,928	106,051	93,574
2020 onwards	127,115	106,903	108,048	95,336
<b>Sub-alternative 2b (Action 3): ACL = OY = 95%ABC</b>				
2017	110,321	92,780	93,773	82,741
2018	115,252	96,927	97,965	86,439
2019	118,528	99,682	100,749	88,896
2020 onwards	120,759	101,558	102,645	90,569
<b>Sub-alternative 2c (Action 3): ACL = OY = 90%ABC</b>				
2017	104,514	87,897	88,837	78,386
2018	109,186	91,826	92,809	81,890
2019	112,289	94,435	95,446	84,217
2020 onwards	114,403	96,213	97,243	85,802

## **ACTION 5. Modify mutton snapper minimum size limit in the South Atlantic Region**

**Alternative 1 (No Action).** The minimum size limit for mutton snapper in the South Atlantic region is 16 inches total length (TL).

**Alternative 2.** Increase the minimum size limit for mutton snapper in the South Atlantic region to 17 inches TL.

**Preferred Alternative 3.** Increase the minimum size limit for mutton snapper in the South Atlantic region to 18 inches TL.

**Alternative 4.** Increase the minimum size limit for mutton snapper in the South Atlantic region to 19 inches TL.

**Alternative 5.** Increase the minimum size limit for mutton snapper in the South Atlantic region to 20 inches TL.

### ***Why is the South Atlantic Council proposing an increase in the minimum size limit for mutton snapper?***

The minimum size limit for mutton snapper in federal waters of the South Atlantic was specified in Amendment 7 to the Snapper Grouper FMP (SAFMC 1995) as 16 inches total length (TL). The SEDAR 15A (2008) stock assessment of mutton snapper cited evidence that the size at 50% sexual maturity for this species was between 14 and 18 inches total length. More recent scientific information indicates that the size at 50% maturity for male mutton snapper is 16 inches TL and 18 inches TL for females (Sadovy de Mitcheson and Colin 2011). **Alternatives 2-5** would be biologically beneficial to the mutton snapper population by allowing more individuals to reach reproductive activity before being harvested. Of these, **Alternatives 4 and 5** would be more biologically beneficial than **Preferred Alternative 3** or **Alternative 2** as they would presumably encompass all the reproductively active individuals in the population.

**Table S-3** presents projected landings for the different size limit alternatives being considered. The table also presents predicted percent reductions in landings from the

### **Mutton snapper Life History** *An Overview*



- Extend from Brazil to Massachusetts, including the Gulf of Mexico and Caribbean Sea.
- Adults are typically associated with hard bottom and reef habitats, as deep as 95 m, with juveniles in nearshore estuaries, tidal mangrove creeks, canals, and seagrass beds.
- Form spawning aggregations.
- The spawning season extends from February to July, with a peak in activity during May and June.
- Oldest fish reported is 40 years old.

status quo. Under the South Atlantic Council’s **Preferred Alternative 3** (18 inches TL), recreational landings of mutton snapper at the current 10-fish bag limit are expected to go down by 74%. Minimum size limits of 19 and 20 inches TL (**Alternatives 4 and 5**, respectively), would each further reduce recreational landings by 80% and 84%, respectively. Overall, all of the minimum size limits alternatives being considered result in substantial decreases in projected landings.

**Table S-3.** Projected recreational landings of mutton snapper (numbers of fish) and closure dates under the current bag limit (10 mutton snapper within the aggregate) with no further restrictions during May and June for each of the three proposed ACLs. Preferred alternative in bold.

Size Limit	Bag Limit	Estimated Landings	% Reduction	Projected Closure Date		
				ACL=ABC	ACL=95%ABC	ACL=90%ABC
16	10	112,089	0.0%	No	27-Dec	9-Dec
17	10	39,536	64.7%	No	No	No
<b>18 (Pref)</b>	<b>10</b>	<b>29,499</b>	<b>73.7%</b>	<b>No</b>	<b>No</b>	<b>No</b>
19	10	23,032	79.5%	No	No	No
20	10	17,793	84.1%	No	No	No

## **ACTION 6. Designate spawning season during which commercial and recreational management measures for mutton snapper should apply in the South Atlantic Region**

**Alternative 1 (No Action).** The spawning season for mutton snapper is designated as May-June.

**Alternative 2.** For regulatory purposes, designate the following as “spawning months”. The remainder of the year would be the “regular season.”

**Preferred Sub-alternative 2a.** April-June

**Sub-alternative 2b.** April-July

**Sub-alternative 2c.** May-July

### ***Why is there a need to define the spawning season for mutton snapper?***

Amendment 4 (SAFMC 1991) designated May and June as the months during which stricter commercial regulations would be implemented to prevent overharvesting of spawning aggregations. However, no management measures were put in place to constrain recreational harvest during those months. In recent years, fishermen and law enforcement personnel have approached the South Atlantic Council with concerns about overexploitation of mutton snapper while they are aggregated to spawn. The Florida Fish and Wildlife Commission (FWC) has received similar comments since 2007. FWC staff has regularly heard comments about reducing recreational bag limits and commercial trip limits. Stakeholders are particularly concerned about how many mutton snapper are harvested during the spawning season. Hence, the South Atlantic Council is coordinating with FWC to implement compatible regulations for mutton snapper in state and federal waters that would address stakeholder concerns and benefit the mutton snapper resource. A necessary step to achieving compatible regulations is to designate the time frame during which more restrictive regulations would apply, i.e., the “spawning months” vs. “regular season.”

Mutton snapper are known to form aggregations when they spawn (Figuerola et al. 1997). Burton et al. (2005 and references therein) indicate that mutton snapper spawning occurs from May through July at Riley’s Hump and peaks in June (M. Burton, unpubl. data). Fish begin to aggregate for spawning around the full moon (Burton et al 2005). Individuals have been observed in spawning condition in the U.S. Caribbean from February through July (Erdman 1976). Some spawning occurs during February to June off Puerto Rico, but spawning peaks during the week following the full moon in April and May. Spawning aggregations are known to occur north of St. Thomas, USVI, and south of St. Croix, USVI, in March, April, and May (Rielinger 1999).

Graham et al. (2008) report evidence of a significant decline in catch-per-unit effort, mean landings, and inter-annual median lengths of mutton snapper in Belize, due to overexploitation at a spawning aggregation in Gladden Spit. The authors suggest that “a

precautionary approach to spawning aggregation management is warranted that provides full protection from fishing to enhance population persistence. The findings also highlight the need for substantially greater enforcement and long-term fisheries monitoring under a comprehensive regional management strategy.”

By designating the timeframe during which stricter management may be warranted to protect spawning aggregations of mutton snapper, the South Atlantic Council is responding to stakeholder concerns and the need to proactively manage species that form spawning aggregations and thus protect individuals from fishing mortality during the most critical period of their life history.

## **ACTION 7. Modify mutton snapper recreational bag limit in the South Atlantic Region**

**Alternative 1 (No Action).** Mutton snapper is part of the aggregate 10 snapper bag limit in the South Atlantic. In the South Atlantic, the 10 snapper-per-person aggregate includes all snapper species in the snapper grouper management unit except red snapper and vermilion snapper. Cubera snapper less than 30 inches total length (TL) are included in the 10 fish bag limit. The aggregate 10 snapper bag limit includes a maximum of 2 cubera snapper per person (not to exceed 2 per/vessel) for fish 30 inches TL or larger off Florida. *Note: The Gulf of Mexico Fishery Management Council and the State of Florida regulations include mutton snapper in the 10 snapper bag limit.*

**Alternative 2.** Retain mutton snapper within the recreational 10 snapper aggregate bag limit in the South Atlantic, but specify a bag limit for mutton snapper during the “regular season” (i.e., non-spawning months)

**Sub-alternative 2a.** 4 fish/person/day

**Sub-alternative 2b.** 5 fish/person/day

**Sub-alternative 2c.** 10 fish/person/day

**Alternative 3.** Retain mutton snapper within the recreational 10 snapper aggregate bag limit in the South Atlantic, but specify bag/vessel limits for mutton snapper during the “spawning months”

**Sub-alternative 3a.** 2 fish/person/day

**Sub-alternative 3b.** 3 fish/person/day

**Sub-alternative 3c.** 10 fish/vessel/day

**Sub-alternative 3d.** 12 fish/vessel/day

**Sub-alternative 3e.** No retention

**Preferred Alternative 4.** Retain mutton snapper within the recreational 10 snapper aggregate bag limit in the South Atlantic, but specify bag limits for mutton snapper within the aggregate bag limit year round.

**Sub-alternative 4a.** 2 fish/person/day.

**Preferred Sub-alternative 4b.** 3 fish/person/day.

**Sub-alternative 4c.** 5 fish/person/day.

### ***Why is the Council proposing to modify the recreational bag limit?***

As mentioned previously, there is stakeholder concern about fishing effort on mutton snapper spawning aggregations despite the healthy status of the mutton snapper stock. In 2010, the Snapper Grouper Advisory Panel (AP) recommended that the South Atlantic Council consider a spawning area closure or a seasonal closure in May and June of each year. Furthermore, the AP recommended that the mutton snapper bag limit be reduced to 3 fish per person per day. The most recent stock assessment of mutton snapper in the

southeastern United States (SEDAR 15A Update 2015) indicated that mutton snapper are neither overfished nor experiencing overfishing. Currently, mutton snapper is part of the 10 snapper aggregate (gray snapper, mutton snapper, yellowtail snapper, Cubera snapper, queen snapper, blackfin snapper, silk snapper, and lane snapper). Note: dog snapper and mahogany snapper were removed from the snapper grouper fishery management unit through Amendment 35 (SAFMC 2015) effective June 22, 2016. Current management measures for mutton snapper in federal waters of the South Atlantic and the Gulf of Mexico and state waters of Florida are shown in **Table S-4**.

**Table S-4.** Current recreational mutton snapper fishing regulations in State waters off Florida, the Gulf of Mexico, and the South Atlantic (June 2015).

Species	Regulations	State Waters <i>Gulf and South Atlantic</i>	Federal Waters <i>Gulf of Mexico</i>	Federal Waters <i>South Atlantic</i>
<b>Mutton Snapper</b>	Size Limit	16" TL		
	Bag Limit	10 snapper aggregate (per person/day)		
	Season	Year round		

### *What are the trends in landings and how would a change in the recreational bag limit affect them?*

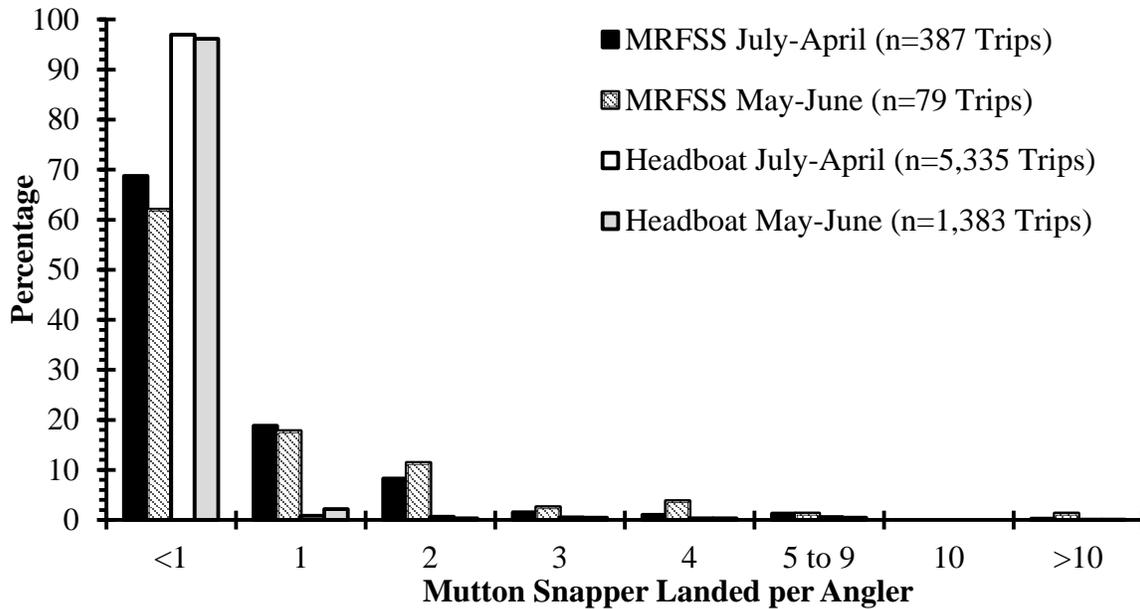
**Table S-5** below shows landings of mutton snapper by recreational wave for 2010 through 2014. The peak of mutton snapper recreational landings occurred during the May-June spawning season (Wave 3) in the South Atlantic during 2010 through 2013. In 2014, however, landings were highest in Wave 6 (November/December) and Wave 1 (January/February). **Figure S-2** shows the distribution of mutton snapper catch-per-angler for the private and charter modes (based on the Marine Recreational Fisheries Statistical Survey, MRFSS) and headboat (based on the Southeast Headboat Survey) of mutton snapper for various time periods. From 2011 through 2013, most anglers caught four or fewer mutton snapper.

**Table S-5.** South Atlantic recreational (private, charter, and headboat) mutton snapper landings by wave, 2010-2014.

Year	1 (J/F)	2 (M/A)	3 (M/J)	4 (J/A)	5 (S/O)	6 (N/D)	Total
<b>2010</b>	21,582	9,475	35,224	36,609	16,583	10,776	130,249
<b>2011</b>	12,253	9,758	20,427	4,020	7,113	6,579	60,151
<b>2012</b>	9,695	23,620	20,847	13,597	4,988	13,362	86,108
<b>2013</b>	12,009	8,415	38,296	29,946	24,702	12,873	126,241
<b>2014</b>	36,850	9,523	31,024	25,715	12,819	41,570	157,501
<b>Mean</b>	18,478	12,158	29,164	21,977	13,241	17,032	112,050

Source: [http://sero.nmfs.noaa.gov/sustainable\\_fisheries/acl\\_monitoring/index.html](http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/index.html).

J/F = January/February, etc.



**Figure S-2.** Distribution of South Atlantic mutton snapper landed per angler by season from the two recreational datasets (MRIP and Headboat) from 2011 to 2013. The regular season is from July to August and the spawning season is from May to June.

In general, constraining recreational harvest by means of bag limits results in neutral biological effects because the ACL limits overall harvest to a level that is sustainable over the long-term. However, bag limits can be beneficial in managing harvest of species whose biology makes them particularly vulnerable to fishing mortality during part of their life cycle, such as when they are reproducing.

**Table S-6** presents projected recreational landings under the various bag limit alternatives considered under this action for the preferred minimum size limit (18 inches TL) and spawning season (April-June).

**Table S-6.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at the preferred 18-inch minimum size limit and an April-June spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag limit during spawning season	Bag limit outside of spawning season		
	2a - 4 pp	2b - 5 pp	2c - 10 pp
3a - 2 pp	29,397	29,404	29,407
3b - 3pp	29,463	29,470	29,473
3c - 10 pv	28,447	28,454	28,457
3d - 12 pv	28,554	28,561	28,564
3e - Closed	26,768	26,775	26,777

**Preferred Alternative 4** and its sub-alternatives considers specifying a mutton snapper bag limit within the 10-snapper aggregate year-round. **Table S-6** shows expected recreational landings under the **Preferred Alternative 4** sub-alternatives for the various minimum size limits considered under **Action 5**. As the majority of recreational anglers are catching less than 3 mutton snapper per day (**Figure S-2**), **Preferred Sub-**

**alternative 4c** would have little effect in constraining recreational harvest on its own and essentially be the same as **Alternative 1 (No Action)**. However, as evident in **Table S-7**, imposing a minimum size limit above the status quo of 16 inches is expected to reduce recreational harvest by a large amount.

**Table S-7.** Projected recreational landing of mutton snapper (numbers of fish) for sub-alternatives under **Preferred Alternative 4** at the various minimum size limits considered under Action 5 (preferred indicated in bold)

Bag limits	Minimum size limit (inches TL)				
	16 (current)	17	18	19	20
4a - 2pp	108,090	37,103	29,300	22,877	17,543
<b>4b (Pref) - 3pp</b>	<b>110,962</b>	<b>38,575</b>	<b>29,440</b>	<b>22,997</b>	<b>17,708</b>
4c - 5pp	111,918	39,155	29,496	23,030	17,793

## **ACTION 8. Modify mutton snapper commercial trip limit in the South Atlantic Region**

**Alternative 1 (No Action).** During May-June the commercial sector in the South Atlantic is restricted to 10 mutton snapper per person day or 10 mutton snapper per person per trip, whichever is more restrictive, and sale is allowed. There is no trip limit for the commercial sector in the Gulf or South Atlantic from July through April.

**Preferred Alternative 2.** Establish a commercial trip limit for mutton snapper during the “regular season” (i.e., non-spawning months) in the South Atlantic.

**Preferred Sub-alternative 2a.** 300 pounds

**Sub-alternative 2b.** 400 pounds

**Sub-alternative 2c.** 500 pounds

**Preferred Alternative 3.** Specify a commercial trip limit for mutton snapper during the “spawning months” in the South Atlantic.

**Sub-alternative 3a.** 2 fish/person/day

**Preferred Sub-alternative 3b.** 3 fish/person/day

**Sub-alternative 3c.** 10 fish/vessel/day

**Sub-alternative 3d.** 12 fish/vessel/day

**Sub-alternative 3e.** No retention

### ***Why is the Council considering modifying commercial management measures for mutton snapper?***

As mentioned previously, there is concern about fishing effort (recreational and commercial) during the mutton snapper spawning season due to potential negative effects on the population, particularly because the species is known to form spawning aggregations. To ensure the long-term sustainability of the mutton snapper stock, the South Atlantic Council must consider adjustments to both recreational and commercial regulations. Current commercial fishing regulations for mutton snapper are detailed in **Table S-8**. During May and June, the commercial sector in the South Atlantic is restricted to 10 mutton snapper per person per day or 10 mutton snapper per person per trip, whichever is more restrictive, and sale is allowed. There is no possession or trip limit for the commercial sector in the Gulf or South Atlantic during the July-April regular season.

**Table S-8.** Current commercial mutton snapper fishing regulations in State waters off Florida, the Gulf of Mexico, and the South Atlantic (June 2015).

Species	Regulations	State Waters Gulf and South Atlantic	Federal Waters Gulf of Mexico	Federal Waters South Atlantic
Mutton Snapper	Size Limit	16" TL		
	Trip Limit	None		
	Closed Season	None		
	Bag Limit	May-June: Restricted to 10 fish/person/day or trip	None	May-June: Restricted to 10 fish/person/day or trip

*What are the trends on commercial landings and how would a change in commercial management measures affect them?*

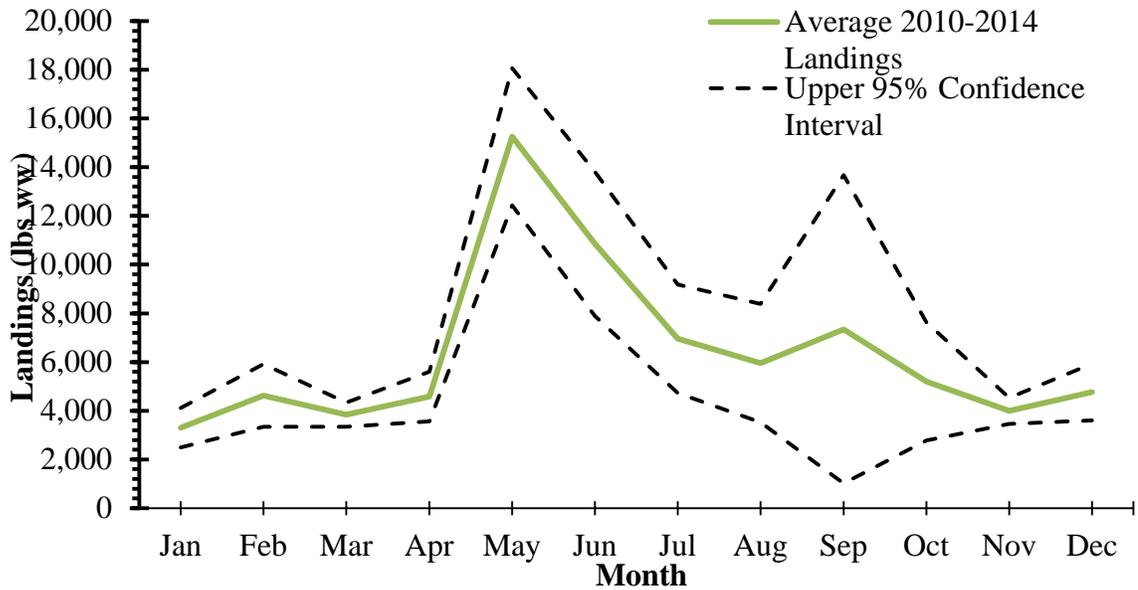
**Table S-9** shows commercial landings of mutton snapper by gear type from 2004-2014 in the South Atlantic. The predominant gear for harvesting mutton snapper in South Atlantic waters has been vertical line gear. Trap gear was phased out in the Gulf in 2007; however, trap landings of mutton snapper are still reported in the South Atlantic and are likely bycatch from the spiny lobster fishery (Matthews et al. 2005).

**Table S-9.** Commercial landings of mutton snapper by gear in the South Atlantic for 2004-2014. Landings are reported in pounds whole weight. Confidential landings are labeled as "NA".

Year	Vertical	Traps	Diving	Other
2004	98,513	6,225	3,805	709
2005	81,551	2,662	5,023	2,436
2006	59,071	3,427	2,959	608
2007	59,955	5,918	3,770	1,343
2008	61,836	2,296	3,052	829
2009	69,088	1,873	3,429	915
2010	66,464	4,048	2,759	822
2011	54,997	7,111	3,599	372
2012	66,912	3,875	6,156	NA
2013	60,586	3,321	8,865	NA
2014	83,811	3,410	3,701	251

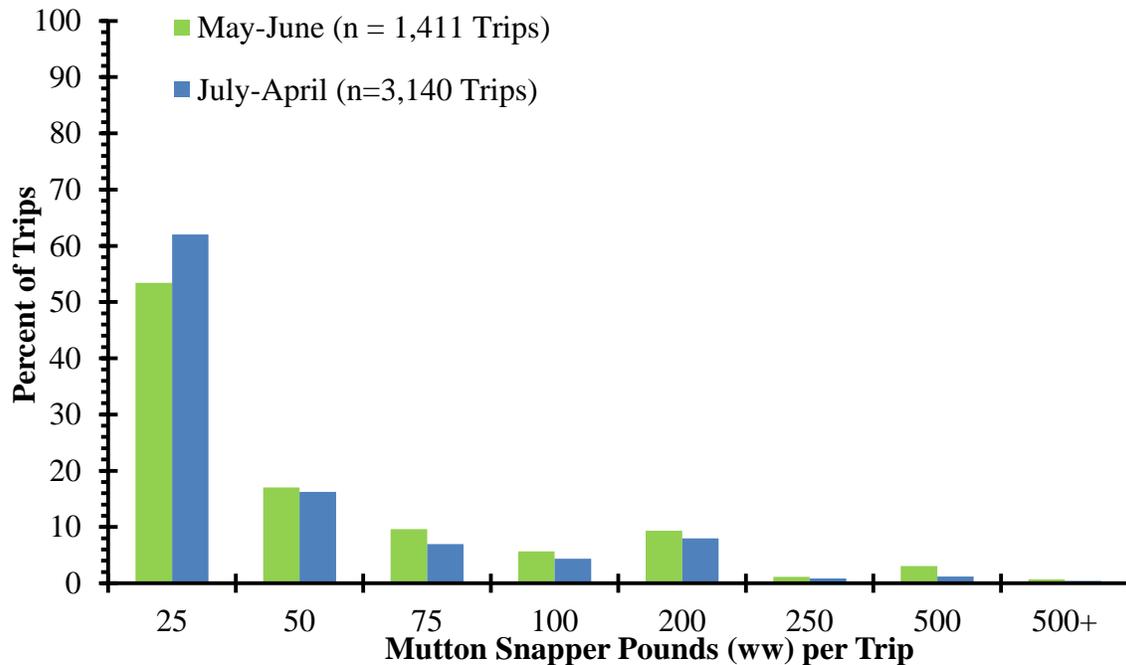
Source: Commercial ACL dataset. South Atlantic vertical line includes: hook-and-line by hand, hook-and-line power assisted (bandit) and hook-and-line troll. "Other" includes landings from the following gears: gill nets, lift nets, seine nets, and unclassified gear.

Commercial landings of mutton snapper in the South Atlantic region are highest during the May-June peak spawning period (**Figure S-3**) despite the current restriction on harvest.



**Figure S-3.** Average annual South Atlantic commercial mutton snapper landings by month from 2010-2014 and 95% confidence intervals. Source: Commercial ACL dataset.

South Atlantic commercial trips that harvested mutton snapper were explored both within and outside the current May-June spawning season. There were no significant differences in the amount (pounds) of mutton snapper landed per trip during May-June compared to the rest of the year (**Figure S-4**).



**Figure S-4.** Distribution of mutton snapper harvested per trip (lbs ww) in the South Atlantic region from the commercial logbook dataset from 2012 to 2014. Commercial restrictions only apply to the commercial sector during May-June.

Predicted percent reductions in commercial landings are shown in **Table S-10**. A commercial trip limit of 300 lbs ww (**Preferred Sub-alternative 2a**) outside of the designated spawning months (April through June according to **Preferred Sub-alternative 2a, Action 6**) is expected to result in a 6% decrease in commercial harvest of mutton snapper.

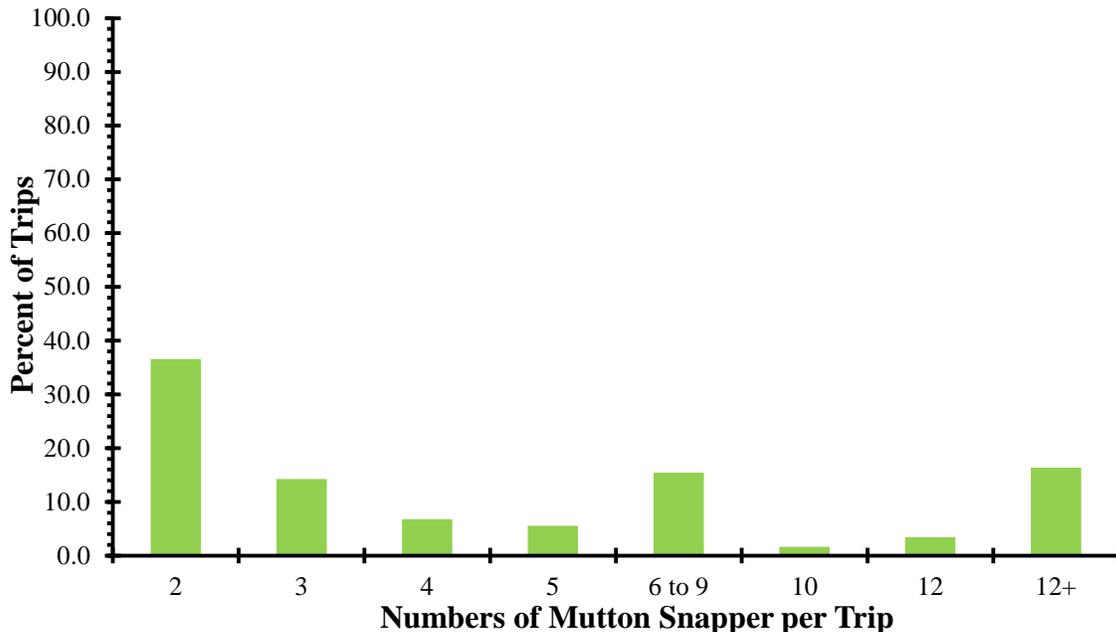
**Table S-10.** Percent decreases in commercial landings for trip limits proposed under **Preferred Alternative 2 of Action 8**. Preferred indicated in bold.

Regular Season	Trip Limit		
	300 lbs ww	400 lbs ww	500 lbs ww
July - April	<b>-6.0%</b>	-4.6%	-3.7%
<b>July - March</b>	<b>-5.9%</b>	<b>-4.5%</b>	<b>-3.7%</b>
August - March	<b>-4.1%</b>	-3.0%	-2.3%
August - April	<b>-4.2%</b>	-3.0%	-2.3%

Source: NMFS SERO.

NOTE: Estimates are from commercial logbook data from 2012 to 2014 and percent reductions were calculated for imposing a trip limit during the 'regular season'.

**Preferred Alternative 3 of Action 8** proposes trip limits in numbers of fish during the “spawning months” designated under **Action 6**. Landings in pounds were converted to numbers of fish by dividing the harvest in pounds by the mutton snapper average weight. Average weight was determined to be 7.68 lbs ww in the commercial sector in the recent assessment (SEDAR 15A Update 2015). **Figure S-5** shows the distribution of numbers of mutton snapper per trip harvested during May-June from 2012 through 2014. About 20% of the trips harvested in excess of the current 10 mutton snapper commercial possession limit during May-June.



**Figure S-5.** Distribution of the numbers of mutton snapper harvested per trip in the South Atlantic region during May and June. Data are from the commercial logbook dataset from 2012 through 2014 (n = 1,411 trips).

Under the preferred alternative to designate April through June as the spawning months for regulatory purposes (**Preferred Sub-alternative 2a, Action 6**) and under the preferred commercial possession limit of 3 fish per person per day (**Preferred Sub-alternative 3b**), commercial harvest of mutton snapper is expected to decrease by 28% (**Table S-11**). Overall, if the South Atlantic Council were to propose adoption of both preferred alternatives under this action, commercial landings of mutton snapper would be expected to decrease by about 34%.

**Table S-11.** Projected percent decrease in commercial landings of mutton snapper for commercial trip limits proposed under Preferred Alternative 3 of Action 8. PP denotes “per person” and PV denotes “per vessel”. Preferred indicated in bold.

Spawning Season	Trip Limit				
	No Retention	2 fish pp	3 fish pp	10 fish pv	12 fish pv
May-June	-35.8%	-27.1%	<b>-24.2%</b>	0.0%	<1%
<b>April-June</b>	<b>-41.7%</b>	<b>-31.4%</b>	<b>-28.1%</b>	<b>-1.7%</b>	<b>&lt;1%</b>
April-July	-52.6%	-39.8%	<b>-35.6%</b>	-6.1%	<1%
May-July	-46.6%	-35.4%	<b>-31.7%</b>	-4.4%	<1%

Source: NMFS SERO. Commercial logbook data 2012-2014

Further analysis is needed to determine how “per vessel” limits would affect commercial harvest. **Sub-alternatives 3a-3d** do not, however, cap commercial harvest on multi-day trips, as do the current regulations under **Alternative 1 (No Action)**. While this may have the potential of reducing the efficacy of regulations aimed at protecting spawning fish, the percentage of commercial vessels engaging in multi-day trip is likely to be small. Further analysis would be required to ascertain possible effects.

# Public Hearing Information

All meetings begin at 6:00 PM EST

<p><b>August 2, 2016</b></p>	<p><b>Webinar</b> Q&amp;A Session/Public Hearing Registration required: <a href="http://www.safmc.net">www.safmc.net</a></p>
<p><b>August 15, 2016</b></p>	<p><b>Public Hearing</b> Hilton Garden Inn-Ft. Lauderdale Airport- Cruise Port 180 SW 18th Avenue <b>Dania, FL</b></p>
<p><b>August 16, 2016</b></p>	<p><b>Public Hearing</b> Hawks Cay Resort 61 Hawks Cay Boulevard <b>Duck Key, FL</b></p>
<p><b>August 17, 2016</b></p>	<p><b>Public Hearing</b> Marriott Key West Beachside 3841 North Roosevelt Boulevard <b>Key West, FL</b></p>

Public hearing summary, draft amendment, presentation and video available at: <http://www.safmc.net/meetings/public-hearing-and-scoping-meeting-schedule>

**Submitting Written Comments:**

*Note: The Council requests that written comments be submitted using the online public comment form, available at:*

[http://safmc.net/08\\_2016\\_SAFMCPublicHearingCommentForm\\_SGAm41](http://safmc.net/08_2016_SAFMCPublicHearingCommentForm_SGAm41)

**Comments by mail:**

Gregg Waugh, Executive Director, South Atlantic Fishery Management Council  
4055 Faber Place Drive, Suite 201  
North Charleston, SC 29405

**Comments by fax:**

843/769-4520

**Comments received by 5:00 PM on August 19, 2016, will be included in the Public Input Overview under the Snapper Grouper Committee for the September 2016 Council Meeting Briefing Book and included in the administrative record.**

**Comments received between August 20 and September 15 at 12:00 PM will still be available for the Council members and public to view on the SAFMC website and included in the administrative record, but will not be included in the Public Input Overview for the Briefing Book.**