

# **Amendment 41 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region**



## **Summary Document for the Scientific and Statistical Committee**

April 14, 2016

# Introduction

## Why is the South Atlantic Council considering action?

Snapper Grouper Amendment 11 (SAFMC 1999) and the Generic Annual Catch Limits/Accountability Measures Amendment (GMFMC 2011) specified  $F_{30\%}$  as a proxy for  $F_{MSY}$  and the corresponding yield as a proxy for Maximum Sustainable Yield, and specified the yield at  $F_{40\%}$  as a proxy for the Acceptable Biological Catch (ABC). The SEDAR 15A (2008) Assessment Workshop panel did not recommend changing any of the management criteria for mutton snapper at that time.

In 2012, the Comprehensive ACL Amendment (SAFMC 2011) established a jurisdictional allocation between the South Atlantic and Gulf of Mexico Councils for the mutton snapper ABC based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf and South Atlantic Councils: the South Atlantic Council was allocated 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
OFL	1,515,300
ABC	926,600
ACL	926,600
Comm ACL	157,707
Rec ACL	768,893
Rec ACT	668,937

The current commercial annual catch limit (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 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 acceptable biological catch (ABC) to maintain sustainable harvest.** Consequently, the Council may modify existing management measures for mutton snapper to achieve the desired level of harvest.

## What Actions Are Being Proposed in this Amendment?

Amendment 41 to the Snapper Grouper Fishery Management Plan proposes to specify the maximum sustainable yield (MSY), minimum stock size threshold (MSST), revise the annual catch limits (ACL), optimum yield (OY), recreational annual catch target (ACT), designate the spawning season for mutton snapper, modify the recreational bag limit and the commercial trip limit to increase protection of mutton snapper during the spawning season, and increase the minimum size limit for both sectors.

## What is the History of Management for the species considered in this amendment?

Snapper grouper regulations in the South Atlantic were first implemented in 1983. **Table 1** provides a summary of regulations affecting mutton snapper.

**Table 1.** Management actions pertaining to mutton snapper in the South Atlantic.

Management Action	Amendment	Effective date
-Minimum size limit of 12 inches total length (TL) for mutton snapper -During May and June each year, possession is limited to aggregate (10 snapper excluding vermilion and only 2 can be red snapper) -Use of longlines inside of 50 fathoms is prohibited	Amendment 4	January 1992
-Minimum size limit increased to 16 inches TL -No longlines south of St. Lucie Inlet, FL	Amendment 7	January 1995
-Limited entry program for snapper grouper fishery	Amendment 8	August 1998
-MSY proxy for mutton = 30% static SPR; OY proxy is 40% static SPR; MSST = $1-M*B_{MSY}$	Amendment 11	December 1999
Specify Acceptable Biological Catch (ABC), jurisdictional allocation (Gulf & South Atlantic), Annual Catch Limits (ACLs), sector allocations, recreational Annual Catch Target (ACT), and Accountability Measures (AMs)	Comprehensive ACL Amendment	April 2012

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

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%

OFL RECOMMENDATIONS				
Year	Landed (lbs)	Discards (lbs)	Landed (numbers)	Discards (numbers)
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)
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

**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)
<b>Alternative 1 (No Action)</b>	MSY equals the yield produced by $F_{MSY}$ . $F_{30\%SPR}$ is used as the $F_{MSY}$ proxy.	$F_{30\%SPR}$	Not specified
<b>Preferred Alternative 2</b>	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

### Discussion:

Maximum Sustainable Yield (MSY) is the largest long-term average catch that can be taken from a stock under prevailing ecological and environmental conditions. MSY for snapper grouper species was initially specified in Amendment 11 (SAFMC 1998). At that time, MSY was unknown for mutton snapper due to a 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 by the Council, however. The 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 assessment is performed without the Council having to take action. **Preferred Alternative 2** would provide that option.

## Action 2. Specify Minimum Stock Size Threshold (MSST) for mutton snapper

**Alternative 1 (No Action).** The minimum stock size threshold (MSST) for mutton snapper is  $MSST = SSB_{MSY} ((1-M) \text{ or } 0.5, \text{ whichever is greater})$ . 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)
1 (No Action)	$MSST = SSB_{MSY} ((1-M) \text{ or } 0.5, \text{ whichever is greater})$ .	0.11	Not specified
2	$MSST = 50\% \text{ of } SSB_{MSY}$	0.17	2,324,600
3	$MSST = 75\% \text{ of } SSB_{MSY}$	0.17	3,486,900

### Discussion:

The SEDAR 15A (2008) assessment produced an MSST estimate that was not officially adopted by the 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 fluctuations 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 Fishery Conservation and Management Act (Magnuson-Stevens Act) requires that a plan be implemented to rebuild the stock. The Council changed the definition for MSST through Regulatory Amendment 21 (effective November 6, 2014) for select snapper grouper species with low natural mortality from  $MSST = SSB_{MSY} * ((1-M) \text{ or } 0.5, \text{ whichever is greater})$  to  $MSST = 75\% SSB_{MSY}$ . Other snapper grouper amendments changed MSST to 75%  $SSB_{MSY}$  for snowy grouper, golden tilefish, and red grouper (Amendments 15A, 15B, and 24, respectively). The snapper grouper species with low natural mortality rates addressed in Regulatory Amendment 21 were red snapper, blueline tilefish, gag, black grouper, yellowtail snapper, vermilion snapper, red porgy, and greater amberjack. 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.

#### Discussion:

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

Proposed commercial ACLs for 2017 range from 100,015 pounds whole weight (lbs ww) under **Preferred Sub-alternative 2a** to 90,014 lbs ww under **Sub-alternative 2c**. Average commercial landings from 2010 to 2014 are 76,881 lbs ww (**Table 3**), well below the range of proposed commercial ACLs. If commercial catch rates are similar to those in 2010-2014, it is not expected that the commercial ACL would be landed under any of the proposed alternatives.

Proposed recreational ACLs (in numbers of fish) for 2017 range from 116,127 fish (**Preferred Sub-alternative 2a**) to 104,514 fish (**Sub-alternative 2c**) whereas the average of recreational landings from 2010-2014 is 112,050 fish (**Table 3**). Hence it is possible that the recreational ACL will be harvested once implemented if harvest rates are comparable to those in 2010-2014. The Council is considering changes to the recreational bag limit to spread out the harvest and prevent a recreational closure.

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

<b>Preferred Sub-alt 2a. ACL = OY = ABC</b>					
<b>Year</b>	<b>Total ABC num</b>	<b>SA ABC num</b>	<b>Comm ACL (lbs)</b>	<b>Comm ACL (num)</b>	<b>Rec ACL (num)</b>
2017	157,500	129,150	100,015	13,023	116,127
2018	164,500	134,890	104,231	13,572	121,318
2019	169,300	138,826	107,981	14,060	124,766
2020	172,700	141,614	111,354	14,499	127,115

<b>Sub-alt 2b. ACL= OY = 95%ABC</b>					
<b>Year</b>	<b>Total ABC num</b>	<b>SA ABC num</b>	<b>Comm ACL (lbs)</b>	<b>Comm ACL (num)</b>	<b>Rec ACL (num)</b>
2017	157,500	122,693	95,014	12,372	110,321
2018	164,500	128,146	99,019	12,893	115,252
2019	169,300	131,885	102,582	13,357	118,528
2020	172,700	134,533	105,787	13,774	120,759

<b>Sub-alt 2c. ACL = OY = 90%ABC</b>					
<b>Year</b>	<b>Total ABC num</b>	<b>SA ABC num</b>	<b>Comm ACL (lbs)</b>	<b>Comm ACL (num)</b>	<b>Rec ACL (num)</b>
2017	157,500	116,235	90,014	11,721	104,514
2018	164,500	121,401	93,808	12,215	109,186
2019	169,300	124,943	97,183	12,654	112,289
2020	172,700	127,453	100,219	13,049	114,403

Source: M. Errigo, SAFMC staff.



**Table 3.** Commercial and recreational landings of mutton snapper, by sector, for the South Atlantic region, 2010-2014.

<b>South Atl. Mutton Snapper Landings</b>					
<b>Year</b>	<b>Recreational</b>		<b>Commercial</b>		<b>Total</b>
	<b>number</b>	<b>lbs ww</b>	<b>number</b>	<b>lbs ww</b>	<b>lbs ww</b>
2010	130,249	477,647	9,731	74,737	552,384
2011	60,151	251,446	8,614	66,158	317,604
2012	86,108	505,583	10,042	77,122	582,705
2013	126,241	660,449	9,665	74,229	734,678
2014	157,501	538,122	11,871	91,173	629,295
<b>Mean</b>	<b>112,050</b>	<b>486,650</b>	<b>9,985</b>	<b>76,684</b>	<b>563,333</b>

## 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).

**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>

Note: PSE = Percent Standard Error. The PSE is a measure of precision presented for recreational estimates. The higher the PSE, the less precise the estimate.

### Discussion:

Annual Catch Targets (ACTs) can be used to prevent ACLs from being exceeded. In managing the snapper grouper fishery, however, Council has chosen not to use ACTs to trigger accountability measures because it is anticipated that improvements in reporting will significantly reduce management uncertainty. **Table 4** shows recreational ACTs for mutton snapper under each of the proposed ACL alternatives from Action 3.

**Table 4.** 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>Preferred Sub-alt 2b</b>	<b>Sub-alt 2c</b>
2017	116,127	97,663	<b>98,708</b>	87,095
2018	121,318	102,029	<b>103,121</b>	90,989
2019	124,766	104,928	<b>106,051</b>	93,574
2020 onwards	127,115	106,903	<b>108,048</b>	95,336
<b>Sub-alternative 2b (Action 3) – ACL = OY = 95%ABC</b>				
<b>Year</b>	<b>Rec ACL (num)</b>	<b>Sub-alt 2a</b>	<b>Preferred Sub-alt 2b</b>	<b>Sub-alt 2c</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>				
<b>Year</b>	<b>Rec ACL (num)</b>	<b>Sub-alt 2a</b>	<b>Preferred Sub-alt 2b</b>	<b>Sub-alt 2c</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. Designate spawning season during which commercial and recreational management measures for mutton snapper should apply**

**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.”

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

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

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

### Discussion:

Amendment 4 (SAFMC 1991) designated May and June as the spawning months for mutton snapper and established regulations to prevent overharvesting of spawning aggregations. In recent years, however, fishermen and law enforcement personnel have approached the 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 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, as indicated by gonadosomatic indices (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).

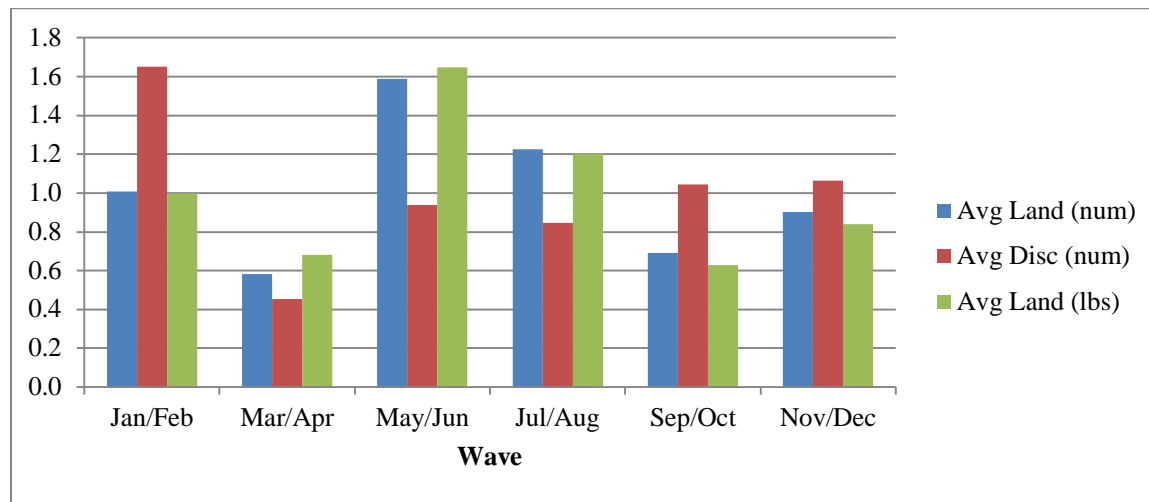
Graham et al. (2008) report evidence of a significant decline in catch-per-unit effort, mean landings and inter-annual median lengths of mutton snapper in Belize, due to overexploitation at a spawning aggregation in Gladden Spit. The authors suggest that “a precautionary approach to spawning aggregation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

**Recreational**

Mutton snapper recreational landings have peaked during wave 3 (May/June) in recent years (Table 5 & Figure 1). When standardized to the mean, catch per angler (Figure 2) and catch per trip (Figure 3) have been highest during wave 1 (January/February) followed by wave 5 (September/October). Average landings of mutton snapper for the headboat sector were highest in June whereas catch per angler peaked in November (Figure 4).

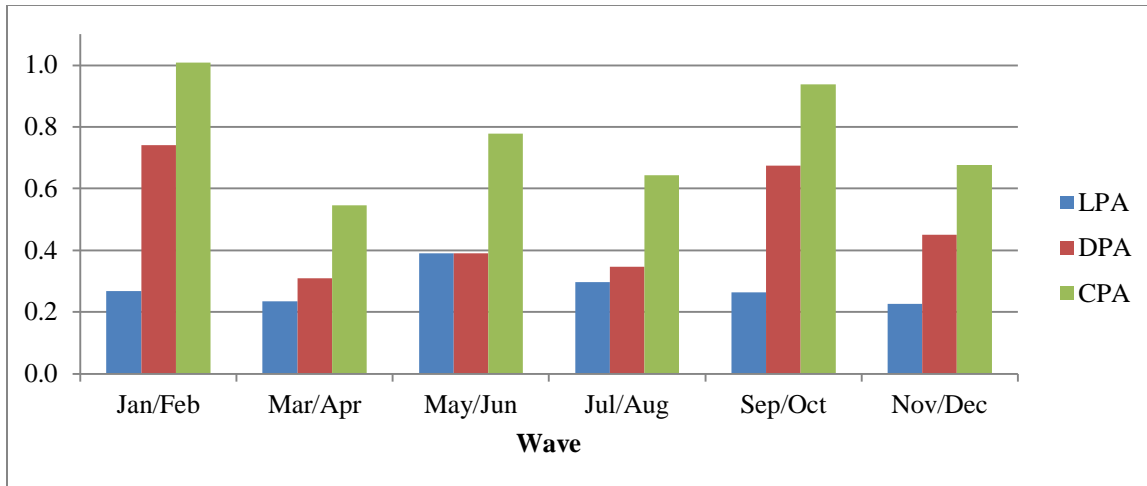
**Table 5.** Mutton snapper recreational landings (private and charter), number of trips, and number of anglers, by wave, in the South Atlantic region, 2010-2014.

Wave	Harvest (numbers)	Harvest (lbs ww)	Discards (numbers)	Total catch (numbers)	Number of Trips	Number of Anglers
Jan/Feb	83,253	353,038	230,769	314,021	122,305	311,322
Mar/Apr	48,283	240,530	63,639	111,922	70,463	205,261
<b>May/Jun</b>	<b>131,420</b>	<b>582,644</b>	<b>131,457</b>	<b>262,877</b>	<b>139,150</b>	<b>337,475</b>
Jul/Aug	101,366	425,429	118,181	219,547	128,639	341,671
Sep/Oct	57,204	222,313	146,210	203,415	95,696	216,673
Nov/Dec	74,741	296,219	148,722	223,463	112,618	330,433

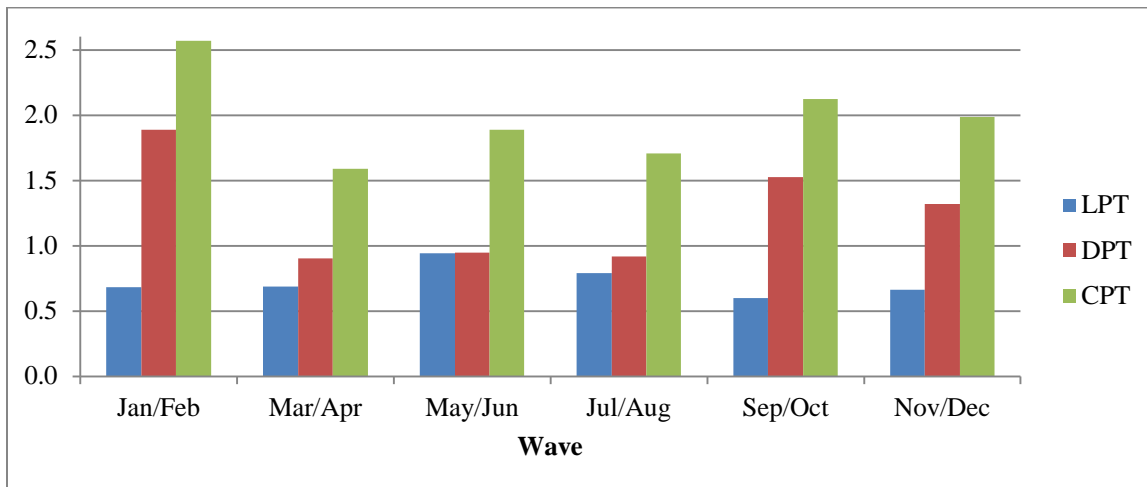


**Figure 1.** Average mutton snapper landings and discards in numbers of fish and pounds by wave, in the South Atlantic region, 2010-2014, for private recreational and charter boats.

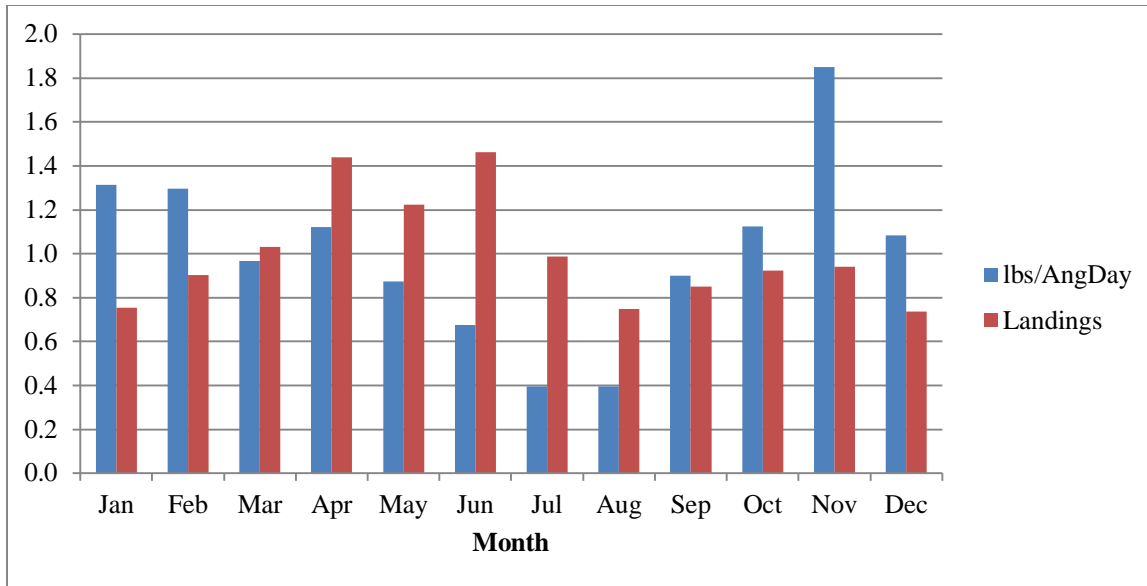
Source: MRIP



**Figure 2.** Landings (LPA), discards (DPA), and total catch per angler (CPA), by wave, of mutton snapper in the South Atlantic region, 2010-2014, for private recreational and charter boats.  
Source: MRIP



**Figure 3.** Landings (LPT), discards (DPT), and total catch per trip (CPT), by wave, of mutton snapper in the South Atlantic region, 2010-2014, for private recreational and charter boats.  
Source: MRIP



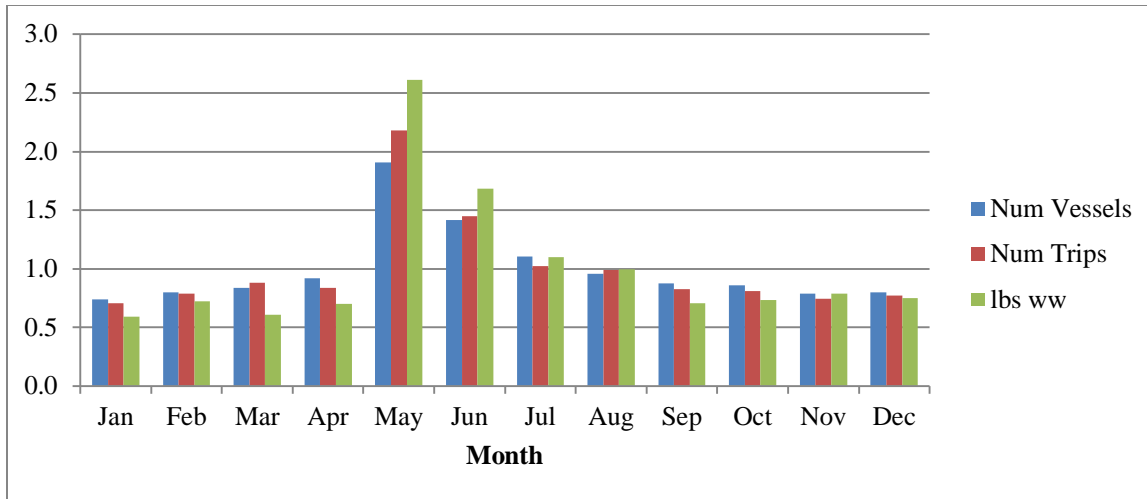
**Figure 4.** Mutton snapper landings in pounds (per angler/day; blue bars) and average (red bars), by month, in the Southeast Headboat Survey, 2010-2014.  
Source: Southeast Headboat Survey

**Commercial**

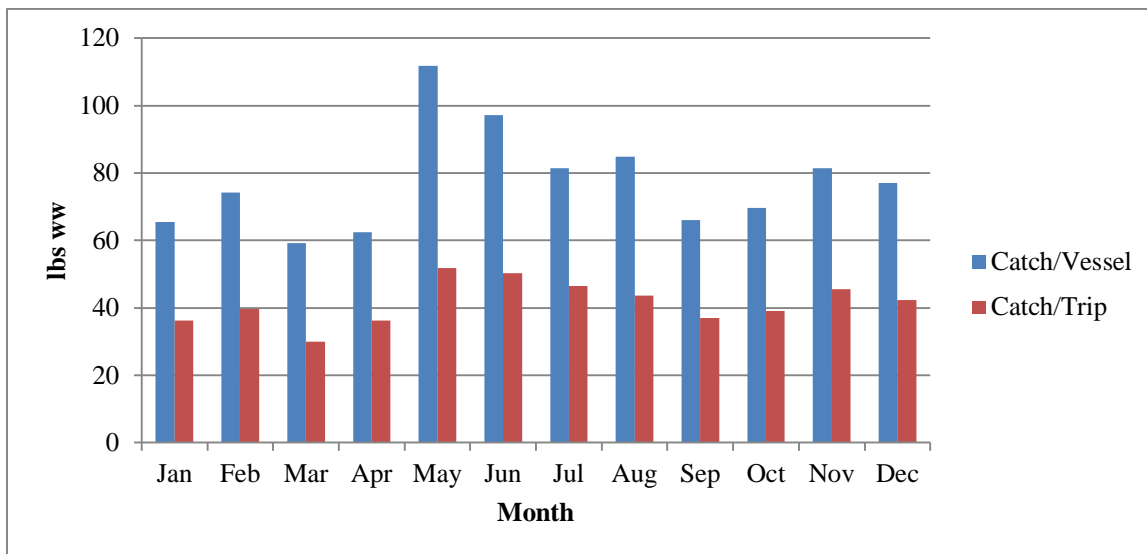
Average commercial landings of mutton snapper in the South Atlantic region peaked in May during 2010-2014 (**Table 6 & Figure 5**), as did the number of commercial trips (**Figure 5**). Similarly, in terms of effort, catch per vessel and catch per trip both peaked in May for the same time period (**Figure 6**).

**Table 6.** Average monthly commercial landings of mutton snapper in the South Atlantic region, 2010-2014.

Month	Num Vessels	Num Trips	Average landings (lbs ww)
Jan	49	89	3,208
Feb	53	99	3,915
Mar	56	110	3,294
Apr	61	105	3,798
<b>May</b>	<b>126</b>	<b>273</b>	<b>14,131</b>
Jun	94	182	9,122
Jul	73	128	5,959
Aug	64	124	5,396
Sep	58	103	3,835
Oct	57	102	3,973
Nov	52	93	4,252
Dec	53	96	4,074



**Figure 5.** Commercial mutton snapper landings (pounds whole weight; green bars), number of vessels (blue bars) and number of trips (red bars), by month, in the South Atlantic region, 2010-2014. Source: SAFE dataset



**Figure 6.** Monthly commercial mutton snapper landings (pounds whole weight) by vessel and by trip, 2010-2014, in the South Atlantic region. Source: SAFE dataset.



## **Action 6. 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

**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.

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

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

### Discussion:

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 included in the 10 snapper aggregate (gray snapper, mutton snapper, yellowtail snapper, Cubera snapper, queen snapper, blackfin snapper, silk snapper, dog snapper, lane snapper, and mahogany snapper). NOTE: Amendment 35 (pending approval)

proposes to remove dog snapper and mahogany snapper from the snapper grouper fishery management unit). 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 7**.

**Table 7.** Current recreational mutton snapper fishing regulations in State waters off Florida, the Gulf of Mexico, and the South Atlantic (June 2015).

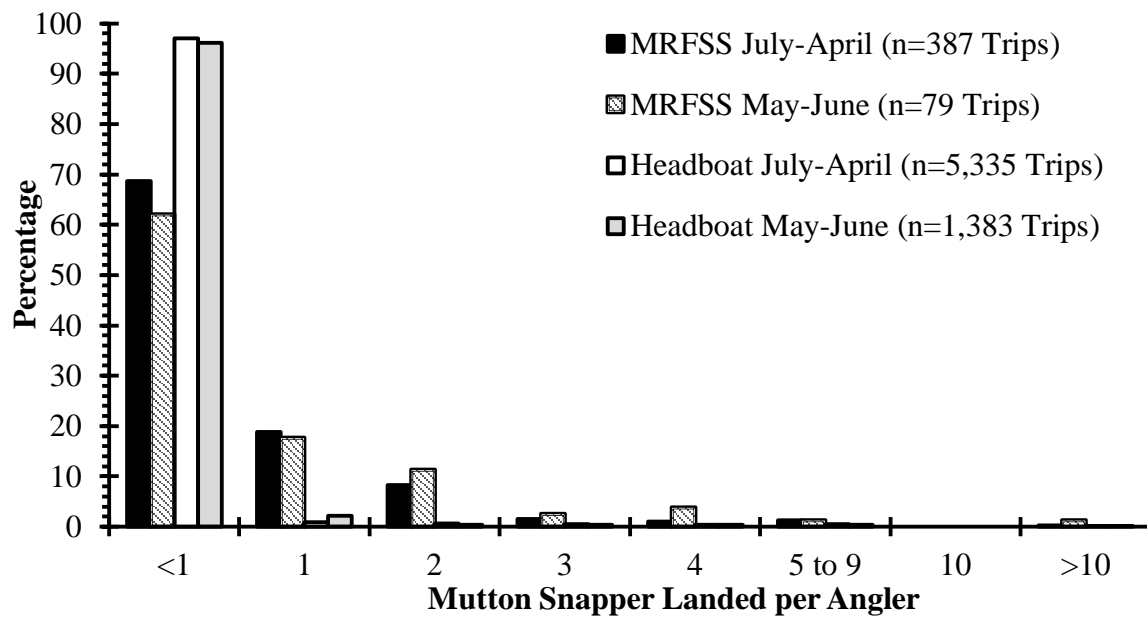
Species	Regulations	State Waters Gulf and South Atlantic	Federal Waters Gulf of Mexico	Federal Waters South Atlantic
Mutton Snapper	Size Limit	16" TL		
	Bag Limit	10 snapper aggregate (per person/day)		
	Season	Year round		

**Table 8** below shows landings of mutton snapper by recreational wave for 2010 through 2014. Landings are highest during wave 3 (May-June), which coincides with the current spawning season for mutton snapper in the South Atlantic. **Figure 7** 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. Between 2011 and 2013, most anglers caught three or fewer mutton snapper.

**Table 8.** South Atlantic recreational (private, charter, and headboat) mutton snapper landings (numbers of fish) by wave. Landings include headboat and data were post-stratified to include Monroe County.

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

Source: NMFS SERO



**Figure 7.** 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.

## Action 7. 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 day or 10 mutton snapper 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.

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

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

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

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

**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

**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

### Discussion:

This action considers alternatives for mutton snapper commercial trip limits in the South Atlantic during the “regular season” (i.e., non-spawning months) and during the “spawning season”. Current commercial fishing regulations for mutton snapper are detailed in **Table 9**. During May and June, the commercial sector in the South Atlantic is restricted to 10 mutton snapper per day or 10 mutton snapper per trip, whichever is more restrictive, and sale is allowed. There is no bag or trip limit for the commercial sector in the Gulf or South Atlantic during the July-April regular season.

**Table 9.** 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
<b>Mutton Snapper</b>	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

**Table 10** shows commercial landings of mutton snapper by gear type from 2004-2013 in the South Atlantic. The predominant gear for harvesting mutton snapper in South Atlantic waters has been vertical line gear (**Table 10**). Trap gear was phased out in the Gulf in 2007; however,

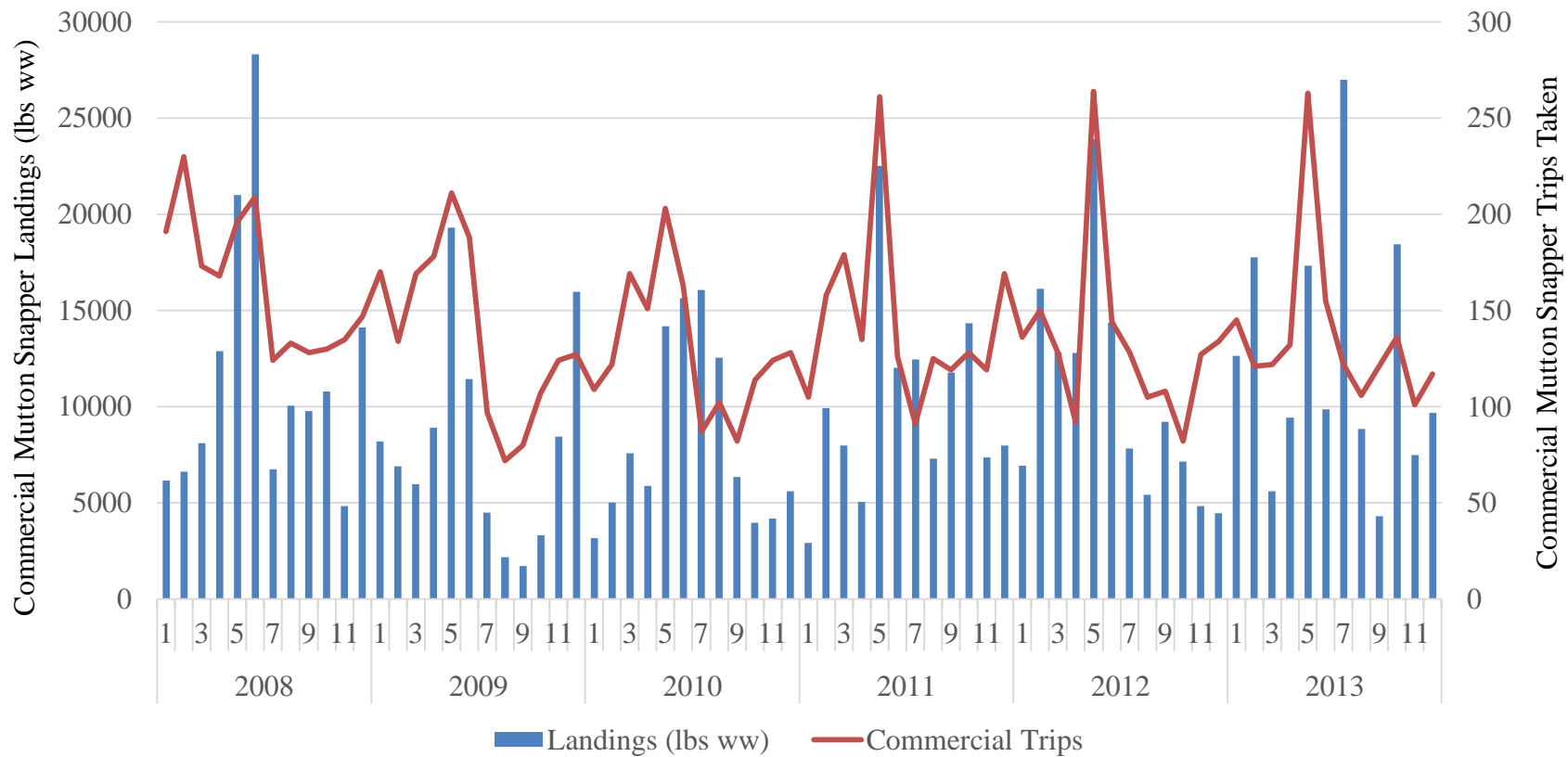
trap landings of mutton snapper are still reported in the South Atlantic and are likely bycatch from the spiny lobster fishery (Matthews et al. 2005).

**Table 10.** Commercial landings of mutton snapper by gear in the South Atlantic for 2004-2013. Landings are reported in pounds whole weight.

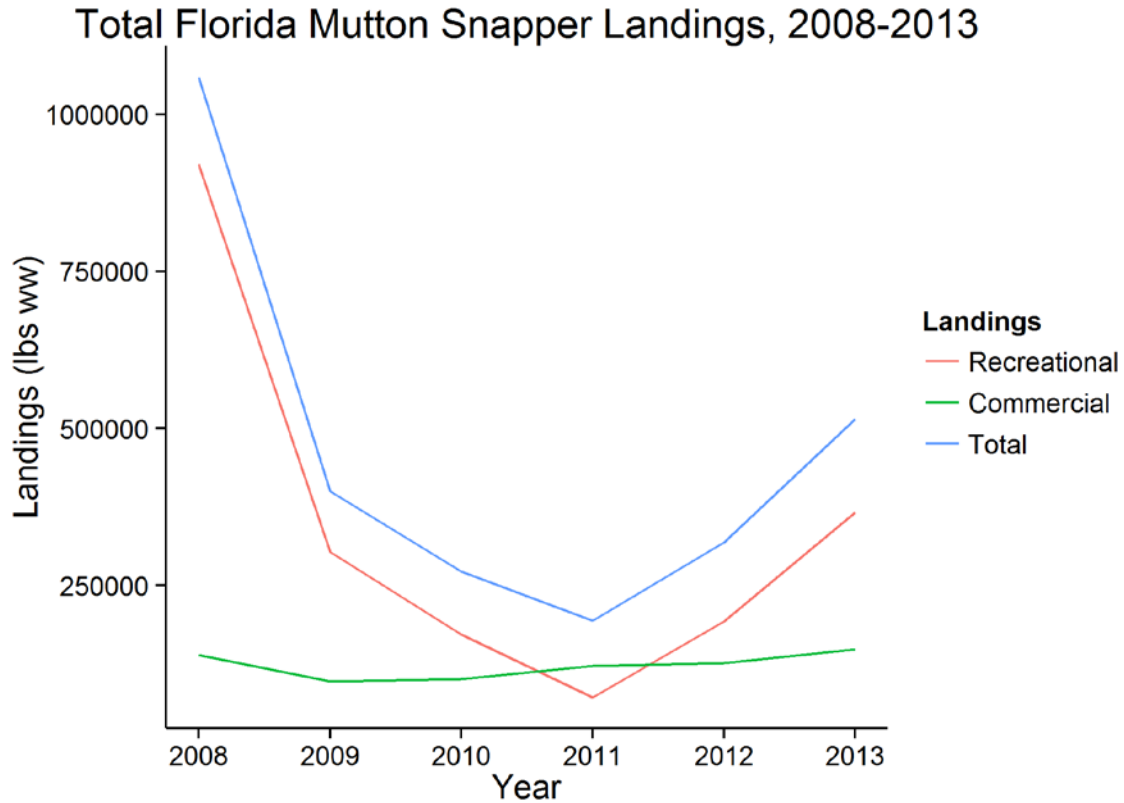
Year	Vertical	Traps	Diving	Other	Total
2004	135,122	6,225	3,805	709	145,861
2005	86,177	2,662	5,023	2,436	96,298
2006	67,845	3,427	2,959	608	74,839
2007	77,519	5,918	3,770	1,343	88,550
2008	70,528	2,296	3,052	829	76,705
2009	71,915	1,873	3,429	915	78,132
2010	67,108	4,048	2,759	822	74,737
2011	55,076	7,111	3,599	372	66,158
2012	66,960	3,875	6,156	131	77,122
2013	61,462	3,338	9,061	368	74,229
2014	83,811	3,410	3,701	251	91,173

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.

The commercial landings of mutton snapper for all Florida counties are highest during the May-June peak spawning period (**Figure 8**) despite the current restriction on harvest to 10-fish/person/day or trip, whichever is more restrictive. An examination of the monthly distribution of mutton snapper landings from commercial logbook and dealer reports shows similar trends (**Table 11**). Overall Florida landings of mutton snapper were highest in 2008, decreased through 2011, and increased again in 2012 and 2013 (**Figure 9**).



**Figure 8.** Commercial mutton snapper landings and trips by month from 2008 to 2013. Left y-axis (blue bars) is total commercial mutton snapper landings (lbs ww) for all Florida counties. Right y-axis (red line) is total commercial mutton snapper trips taken.

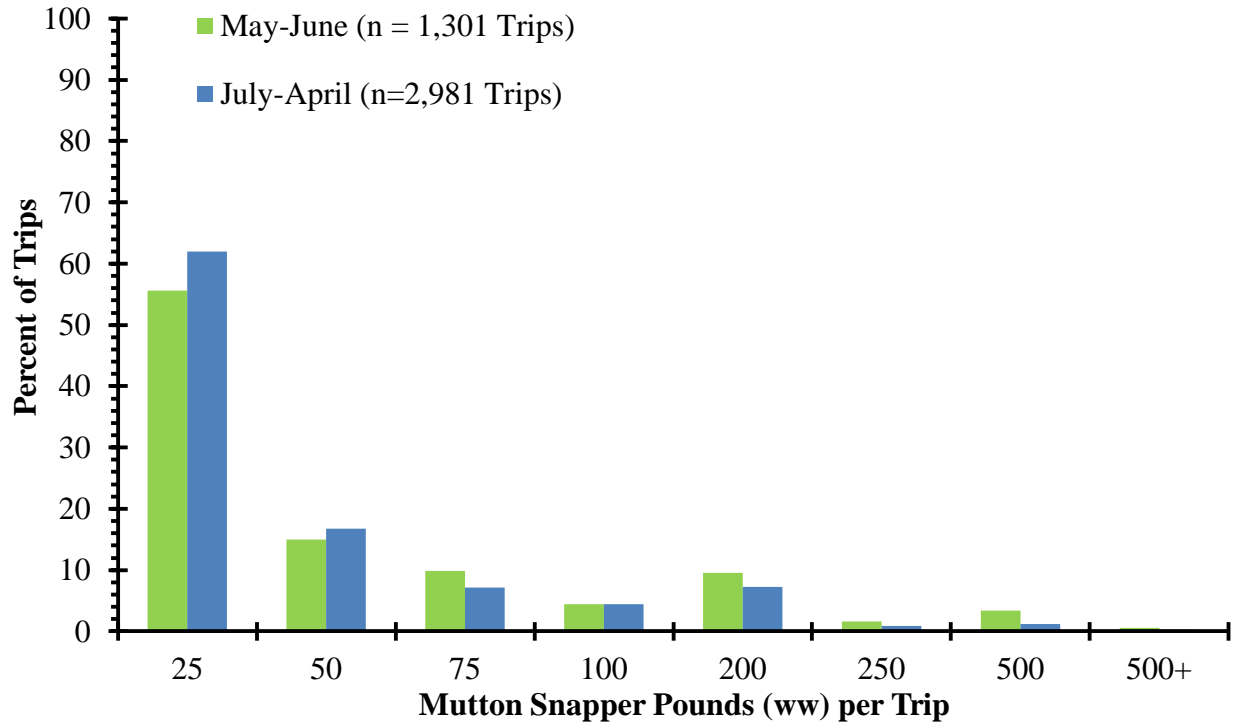


**Figure 9.** Total landings of mutton snapper in Florida (lbs ww). Data are from the Florida Fish and Wildlife Conservation Commission recreational landings and commercial trip ticket programs.

**Table 11.** Monthly distribution of mutton snapper landings from commercial logbook in the South Atlantic during 2009-2013.

Month	Percent of landings (Dealer reports)	Percent of landings (Logbook)
1	5.7%	5.5%
2	6.8%	6.5%
3	5.5%	5.6%
4	6.5%	6.1%
5	20.8%	22.6%
6	14.7%	14.0%
7	9.0%	9.8%
8	8.3%	8.3%
9	5.3%	5.5%
10	5.5%	5.4%
11	6.0 %	5.6%
12	5.9%	5.1%

South Atlantic commercial trips that harvested mutton snapper were explored both within and outside the May-June spawning season (**Figure 10**). The regular season and spawning season did not have distributional differences that were statistically significant (G-test,  $P = 0.609$ ).



**Figure 10.** Distribution of the mutton snapper harvested per trip (lbs ww) in the South Atlantic region from the commercial logbook dataset from 2011 to 2013. The spawning season is from May to June.



## **Action 8. 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.

**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.

## Preliminary Analyses

Below is a series of tables showing projected landings (in numbers of fish) under all the combinations of recreational management measures under consideration. The dataset used for this preliminary analysis does not include landings from the headboat segment. However, note that approximately 11.4% of recreational landings of mutton snapper during the time period examined (2010-2014) constituted headboat catches. **Table 12** presents projected landings for year-round bag limits under different size limit alternatives. Subsequent tables are organized in sets for each size limit alternatives (e.g, **Tables 13-16** present analyses for the current 16 inch total length (TL) minimum size limit). Each table contains projected landings for combinations of bag/vessel limits and seasons (spawning vs. regular). The proposed recreational ACL under the Council's preferred alternative in **Action 3** is 116,127 fish for 2017.

**Table 12.** Projected mutton snapper recreational landings (in numbers of fish) for bag limit/minimum size limit combinations under a year-round season.

<b>Bag Limits</b>	<b>16 in (current)</b>	<b>17 in</b>	<b>18 in</b>	<b>19 in</b>	<b>20 in</b>
10 pp	99,254	46,802	36,359	29,980	24,803
5pp	99,096	46,644	36,241	29,901	24,724
3pp	98,267	46,327	35,990	29,664	24,488
2pp	95,692	45,747	35,801	29,503	24,327

**Projected mutton snapper recreational landings under 16-inch minimum size limit (status quo) for various bag limit and season alternatives**

**Table 13.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at the current **16-inch minimum size limit** and a **May-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	98,633	98,633	98,527
	2 pp	97,972	97,972	97,866
	12 pv	98,977	98,977	98,871
	10 pv	98,898	98,898	98,793
	Closed	72,969	72,969	72,864

**Table 14.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at the current **16-inch minimum size limit** and an **April-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	98,633	98,633	98,527
	2 pp	97,847	97,847	97,741
	12 pv	98,898	98,898	98,792
	10 pv	98,740	98,740	98,634
	Closed	69,151	69,151	69,045

**Table 15.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at the current **16-inch minimum size limit** and an **April-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	98,420	98,420	98,361
	2 pp	97,014	97,014	96,955
	12 pv	98,867	98,867	98,808
	10 pv	98,659	98,659	98,601
	Closed	57,156	57,156	57,097

**Table 16.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at the current **16-inch minimum size limit** and a **May-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	98,420	98,420	98,361
	2 pp	97,139	97,139	97,080
	12 pv	98,946	98,946	98,887
	10 pv	98,818	98,818	98,759
	Closed	60,975	60,975	60,916

**Projected mutton snapper recreational landings under a 17-inch minimum size limit for various bag limit and season alternatives**

**Table 17.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **17-inch minimum size limit** and a **May-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	46,407	46,407	46,407
	2 pp	46,038	46,038	46,038
	12 pv	46,526	46,526	46,526
	10 pv	46,447	46,447	46,447
	Closed	31,890	31,890	31,890

**Table 18.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **17-inch minimum size limit** and an **April-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	46,407	46,407	46,407
	2 pp	46,038	46,038	46,038
	12 pv	46,526	46,526	46,526
	10 pv	46,447	46,447	46,447
	Closed	30,094	30,094	30,094

**Table 19.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **17-inch minimum size limit** and an **April-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	46,407	46,407	46,407
	2 pp	45,956	45,956	45,956
	12 pv	46,526	46,526	46,526
	10 pv	46,447	46,447	46,447
	Closed	26,079	26,079	26,079

**Table 20.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **17-inch minimum size limit** and a **May-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	46,407	46,407	46,407
	2 pp	45,956	45,956	45,956
	12 pv	46,526	46,526	46,526
	10 pv	46,447	46,447	46,447
	Closed	27,875	27,875	27,875

**Projected mutton snapper recreational landings under an 18-inch minimum size limit for various bag limit and season alternatives**

**Table 21.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at an **18-inch minimum size limit** and a **May-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	36,004	36,004	36,004
	2 pp	35,886	35,886	35,886
	12 pv	36,122	36,122	36,122
	10 pv	36,043	36,043	36,043
	Closed	25,986	25,986	25,986

**Table 22.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at an **18-inch minimum size limit** and an **April-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	36,004	36,004	36,004
	2 pp	35,886	35,886	35,886
	12 pv	36,122	36,122	36,122
	10 pv	36,043	36,043	36,043
	Closed	24,836	24,836	24,836

**Table 23.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at an **18-inch minimum size limit** and an **April-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	36,004	36,004	36,004
	2 pp	35,886	35,886	35,886
	12 pv	36,122	36,122	36,122
	10 pv	36,043	36,043	36,043
	Closed	21,403	21,403	21,403

**Table 24.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at an **18-inch minimum size limit** and a **May-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	36,004	36,004	36,004
	2 pp	35,886	35,886	35,886
	12 pv	36,122	36,122	36,122
	10 pv	36,043	36,043	36,043
	Closed	22,552	22,552	22,552

**Projected mutton snapper recreational landings under a 19-inch minimum size limit for various bag limit and season alternatives**

**Table 25.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **19-inch minimum size limit** and a **May-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	29,664	29,664	29,664
	2 pp	29,546	29,546	29,546
	12 pv	29,783	29,783	29,783
	10 pv	29,704	29,704	29,704
	Closed	21,147	21,147	21,147

**Table 26.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **19-inch minimum size limit** and an **April-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	29,664	29,664	29,664
	2 pp	29,546	29,546	29,546
	12 pv	29,783	29,783	29,783
	10 pv	29,704	29,704	29,704
	Closed	20,259	20,259	20,259

**Table 27.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **19-inch minimum size limit** and an **April-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	29,664	29,664	29,664
	2 pp	29,546	29,546	29,546
	12 pv	29,783	29,783	29,783
	10 pv	29,704	29,704	29,704
	Closed	17,616	17,616	17,616

**Table 28.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **19-inch minimum size limit** and a **May-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	29,664	29,664	29,664
	2 pp	29,546	29,546	29,546
	12 pv	29,783	29,783	29,783
	10 pv	29,704	29,704	29,704
	Closed	18,504	18,504	18,504

**Projected mutton snapper recreational landings under a 20-inch minimum size limit for various bag limit and season alternatives**

**Table 29.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **20-inch minimum size limit** and a **May-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	24,488	24,488	24,488
	2 pp	24,369	24,369	24,369
	12 pv	24,606	24,606	24,606
	10 pv	24,527	24,527	24,527
	Closed	17,740	17,740	17,740

**Table 30.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **20-inch minimum size limit** and an **April-June** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	24,488	24,488	24,488
	2 pp	24,369	24,369	24,369
	12 pv	24,606	24,606	24,606
	10 pv	24,527	24,527	24,527
	Closed	16,878	16,878	16,878

**Table 31.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **20-inch minimum size limit** and an **April-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	24,488	24,488	24,488
	2 pp	24,369	24,369	24,369
	12 pv	24,606	24,606	24,606
	10 pv	24,527	24,527	24,527
	Closed	14,904	14,904	14,904

**Table 32.** Projected mutton snapper recreational landings (in numbers of fish) under various bag limits at a **20-inch minimum size limit** and a **May-July** spawning season. “pp” signifies “per person” and “pv” signifies “per vessel”.

Bag Limits		Outside of Spawning Season		
		10 pp	5 pp	4 pp
Spawning Season	3 pp	24,488	24,488	24,488
	2 pp	24,369	24,369	24,369
	12 pv	24,606	24,606	24,606
	10 pv	24,527	24,527	24,527
	Closed	15,765	15,765	15,765