Amendment 29 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

DECISION DOCUMENT

Update to the ABC Control Rule, ABC Adjustments to Unassessed Species, and Management Measures for Gray Triggerfish

MARCH 2014

Purpose and Need

The purpose of the actions is to: update the ~~South Atlantic Council's~~ South Atlantic Fishery Management Council's (South Atlantic Council) acceptable biological catch (ABC) control rule to incorporate methodology for determining the ABC of "Only Reliable Catch Species" (ORCS); adjust ABCs for the affected species; and establish management measures for gray triggerfish in federal waters of the South Atlantic region.

The need for action is to: specify ABCs for snapper grouper species based on the best available scientific information ~~adopt the recommendations of the South Atlantic Council's Scientific and Statistical Committee (SSC) to update the ABC Control Rule and adjust ABCs for "ORCS" based on the revised ABC Control Rule~~, lengthen the commercial season for gray triggerfish to diminish and/or prevent derby conditions, and ensure that overfishing does not occur pending a new assessment of the gray triggerfish stock in the South Atlantic region.

The IPT suggests edits to the Purpose and Need statement. Adopting the recommendations of the Scientific and Statistical Committee (SSC) is not a need; the need is rather to adopt the best available scientific information to better manage fishery resources and prevent overfishing of snapper grouper species.

COMMITTEE ACTION: Approve suggested edits to the Purpose and Need statement.
OPTION 1. APPROVE THE SUGGESTED EDITS TO THE PURPOSE STATEMENT.
OPTION 2. APPROVE THE SUGGESTED EDITS TO THE NEED STATEMENT.
OPTION 3. OTHERS?

What is the ORCS Approach?

Based on methodology in *Calculating Acceptable Biological Catch for Stocks That Have Reliable Catch Data Only (Only Reliable Catch Stocks – ORCS)* (Berkson et al. 2011), the South Atlantic Council's SSC recommended an approach to compute the ABC for unassessed stocks with only reliable catch data. The approach involved selection of a "catch statistic", a scalar to denote the risk of overexploitation for the stock, and a scalar to denote the management risk level. The SSC provided the first two criteria for each stock, but the South Atlantic Council must specify their risk tolerance level for each stock.

Catch Statistic: The median was considered inadequate to represent the high fluctuation in landings—i.e., to appropriately capture the range of occasional high landings—and the maximum catch over the period 1999-2007 was chosen instead. The time period was chosen to (1) be consistent with the period of landings used in the Council's Comprehensive ACL Amendment, and (2) to minimize the impact of recent regulations and the economic down turn on the landings time series.

Risk of Overexploitation: Based on SSC consensus and expert judgment each stock is assigned to a final risk of exploitation category. See **Appendix H** for a detailed description of the attributes used to assess the level of risk.

A scalar scheme consistent with the Risk of Overexploitation categories is assigned to stocks as follows:

Risk of Overexploitation	Scalar Value
Low	2
Moderate Low	1.75
Moderate	1.5
Moderate High	1.25

Important Note: Given characteristics specific to South Atlantic stocks, the group agreed that the "catch statistic × scalar" metric developed in this stage of the process may not represent a reliable proxy for the overfishing limit (OFL) and, therefore, would not be called OFL or used as such.

Risk Tolerance Level: The next step in the process involves multiplying the "catch statistic X scalar" metric by a range of scalar values that reflects the South Atlantic Council's risk tolerance level. For instance, the South Atlantic Council may choose to be more risk-averse in computing the ABC for a stock that exhibits a moderately high risk of overexploitation. As such, the South Atlantic Council may use a scalar of 0.50 for such stocks to arrive at more conservative ABC. On the other hand, stocks with low risk of overexploitation and thus able to tolerate a higher level of management risk, may be assigned a less conservative scalar, such as 0.90.

Action 1. Update~~Amend~~ the South Atlantic Council's Acceptable Biological Catch (ABC) Control Rule

Alternative 1 (No Action). ~~Continue to utilize~~ Utilize the South Atlantic Council's ABC control rule as adopted in the Comprehensive Annual Catch Limit (ACL) Amendment to specify ABCs for snapper grouper species.

COMMITTEE ACTION: Approve edits to Action 1 and Alternative 1 above.
OPTION 1. APPROVE THE SUGGESTED EDITS TO ACTION 1 AND ALTERNATIVE 1.
OPTION 2. OTHERS?

Table 2.1.1. ABC control rule currently in place. Parenthetical values indicate (1) the maximum adjustment value for a dimension; and (2) the adjustment values for each tier within a dimension.

Level 1 – Assessed Stocks	
Tier	**Tier Classification and Methodology to Compute ABC**
1. Assessment Information (10%)	1. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 2. Reliable measures of exploitation or biomass; no MSY benchmarks, proxy reference points. (2.5%) 3. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) 4. Reliable catch history. (7.5%) 5. Scarce or unreliable catch records. (10%)
2. Uncertainty Characterization (10%)	1. Complete. Key Determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key Determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility – Risk Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 - Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine adjustment factor if possible, or from expert judgment if not possible.	

Level 3 - Unassessed Stocks. Inadequate data to support DBSRA
ABC derived directly, from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.
Level 4 - Unassessed Stocks. Inadequate data to support DCAC or DBSRA
OFL and ABC derived on a case-by-case basis. ORCS ad hoc group is currently working on what to do when not enough data exist to perform DCAC. 1. Will catch affect stock? NO: Ecosystem Species (Council largely done this already, ACL amend) YES: GO to 2 2. Will increase (beyond current range of variability) in catch lead to decline or stock concerns? NO: ABC = 3rd highest point in the 1999-2008 time series. YES: Go to 3 3. Is stock part of directed fishery or is it primarily bycatch for other species? Directed: ABC = Median 1999-2008 Bycatch/Incidental: If yes. Go to 4. 4. Bycatch. Must judge the circumstance: If bycatch in other fishery: what are trends in that fishery? what are the regulations? what is the effort outlook? If the directed fishery is increasing and bycatch of stock of concern is also increasing, the Council may need to find a means to reduce interactions or mortality. If that is not feasible, will need to impact the directed fishery. The SSC's intention is to evaluate the situation and provide guidance to the Council on possible catch levels, risk, and actions to consider for bycatch and directed components.

Preferred Alternative 2. Adopt the SSC's recommended approach to determine ABC values for Only Reliable Catch Stocks (ORCS). This approach will become Level 4 of the ABC control rule and the existing Level 4 will be renumbered as Level 5.

Table 2.1.2. ABC control rule proposed under Preferred Alternative 2. Parenthetical values indicate (1) the maximum adjustment value for a dimension; and (2) the adjustment values for each tier within a dimension.

Level 1 – Assessed Stocks	
Tier	**Tier Classification and Methodology to Compute ABC**
1. Assessment Information (10%)	1. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 2. Reliable measures of exploitation or biomass, no MSY benchmarks, proxy reference points. (2.5%) 3. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) 4. Reliable catch history. (7.5%) 5. Scarce or unreliable catch records. (10%)
2. Uncertainty Characterization (10%)	1. Complete. Key determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 – Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine the adjustment factor if possible, or from expert judgment if not possible.	
Level 3 – Unassessed Stocks. Inadequate data to support DBSRA	
ABC derived directly from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.	
Level 4 – Unassessed Stocks. Only Reliable Catch Stocks.	
OFL and ABC derived on a case-by-case basis. Apply ORCS approach using a catch statistic, a scalar derived from the risk of overexploitation, and the Council's risk tolerance level.	
Level 5 – Unassessed Stocks. No reliable catch.	
OFL and ABC derived on a case-by-case basis. Stocks with very low landings that show very high variability in catch estimates (mostly caused by the high degree of uncertainty in recreational landings estimates), or stocks that have species identification issues that may cause unreliable landings estimates. Use "decision tree": 1. Will catch affect stock? NO: Ecosystem Species (Council done this already, ACL Amend) YES: Go to 2	

2. Will increase (beyond current range of variability) in catch lead to decline or stock concerns?
   NO: ABC = 3rd highest point in the 1999-2008 time series
   YES: Go to 3

3. Is stock part of directed fishery or is it primarily bycatch for other species?
   Directed: ABC = Median 1999-2008
   Bycatch/Incidental: If yes, go to 4.

4. Bycatch. Must judge the circumstance:
   If bycatch in other fishery: what are trends in that fishery? What are the regulations? What is the effort outlook?

   If the directed fishery is increasing and bycatch of stock of concern is also increasing, the Council may need to find a means to reduce interactions or mortality. If that is not feasible, will need to impact the directed fishery. The SSC's intention is to evaluate the situation and provide guidance to the Council on possible catch levels, risk, and actions to consider for bycatch and directed components.

The rationale below was added to the document to explain why there are only 2 alternatives for this action.

Two Alternatives Considered

The National Marine Fisheries Service (NMFS) acknowledges there are two alternatives for this action. Section 1502.14(a) of the National Environmental Policy Act (NEPA) states that "agencies shall: rigorously explore and objectively evaluate all reasonable alternatives…" Two reasonable alternatives for this action, including the no action alternative, have been identified by NMFS and the South Atlantic Fishery Management Council (South Atlantic Council). Section 600.305 of the Magnuson-Stevens Fishery Conservation and Management Act states that for stocks and stock complexes required to have an ABC, each Council must establish an ABC control rule based on scientific advice from its Scientific and Statistical Committee (SSC). The ABC control identified in **Alternative 1 (No Action)** was developed by the South Atlantic Council's SSC and implemented through the Comprehensive ACL Amendment (SAFMC 2011c). **Preferred Alternative 2** updates the ABC control rule developed by the South Atlantic Council's SSC. The SSC has provided no other options or modifications to an ABC control rule for South Atlantic Council's consideration. Therefore, the South Atlantic Council and NMFS determined it is not reasonable to include additional alternatives for modifications to the ABC control rule.

Biological Effects

Alternative 1 (No Action) would continue to utilize the South Atlantic Council's ABC control rule as adopted in the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011c) to specify ABCs for snapper grouper species, including those that are unassessed. The ABC control rule, which was developed by the South Atlantic Council's SSC, involves a systematic inspection of all sources of uncertainty, including variables such as susceptibility, vulnerability, bycatch, and discard information when estimating ABC. For assessed species, the control rule considers the probability of overfishing in determining ABC. The ABC control rule for assessed species has four dimensions included in the control rule framework: assessment information; characterization of uncertainty; stock status; and productivity/susceptibility of the stock. Each dimension contains tiers that can be evaluated for each stock to determine a numerical score. The uncertainty buffer, or difference between an overfishing limit and ABC, is expressed in terms of a reduction in the probability of overfishing, or P*.

For unassessed species, the ABC control rule sets the ABC equal to median landings from 1999-2008. **Preferred Alternative 2** would modify the ABC control rule to use the Only Reliable Catch Stocks (ORCS) approach to calculate ABC values for select unassessed stocks.

Table 4.1.1 describes unassessed species that would not be subject to the ORCS approach due to SSC concerns on the reliability of catch statistics based on variability, landings or data collection issues and species identification.

Table 4.1.1. Species that will not be affected by the revisions to the ABC control rule proposed by this amendment.

Variability	Landings or Data Collection issues	Species ID
Black Snapper	Black Snapper	Almaco Jack
	Blackfin Snapper	Lesser Amberjack
	Sand Tilefish	Sailor's Choice
	Mahogany	Banded Rudderfish
	Dog Snapper	Yellowmouth Grouper
	Misty Grouper	Scup
	Sailor's Choice	Saucereye Porgy
	Coney	Jolthead Porgy
	Graysby	Knobbed Porgy
	Saucereye Porgy	Whitebone Porgy
	Scup	
	Queen Snapper	
	Warsaw grouper	
	Speckled hind	

Preferred Alternative 2 updates the ABC control rule for unassessed species based on recommendation developed by the South Atlantic Council's SSC. The SSC has developed no other options or modifications to the ABC control rule for South Atlantic Council consideration. Therefore, the South Atlantic Council and the National Marine Fisheries Service (NMFS) determined it is not reasonable to include additional alternatives for modifications to the ABC control rule. Updating the ABC control rule as proposed in **Preferred Alternative 2** would not have any direct biological effects. This change would; however, indirectly effect the biological environment since an approved scientific methodology would be adopted to establish ABCs for snapper grouper species that have not been assessed but for which there are reliable catch statistics.

Modifying the ABC control rule for snapper grouper species would not directly affect protected species because these parameters are not used in determining immediate harvest objectives. Future specific management actions based on the ABC control rule may affect protected species. The biological

effects to protected species from future management actions will be evaluated as they are developed.

Economic Effects

Alternative 1 (No Action) would continue use of the current control rule to specify ABCs for snapper grouper species, while **Preferred Alternative 2** would change the ABC control role used to determine ABCs for Only Reliable Catch Stocks. Both alternatives would have no added beneficial or adverse economic impacts because **Action 1** is an administrative action; however, **Preferred Alternative 2** would use an improved methodology and with subsequent action could yield larger long-run economic benefits from exploitation of snapper grouper species than the status quo of **Alternative 1 (No Action)**.

Social Effects

Setting of the biological parameters for harvest thresholds have few direct social effects as the effects are more indirect from the implementation of the ABC and any subsequent reduction through other actions to set ACLs, annual catch targets (ACTs), and accountability measures (AMs). Because the ABC control rule already exists under **Alternative 1 (No Action)**, there would be no difference in direct social effects between **Alternative 1 (No Action)** and the proposed change in the ABC control rule under **Preferred Alternative 2**, because both alternatives would result in the continuation of the associated ACLs, ACTs, and AMs.

Changes in the ACLs that could occur if the rule used to designate an ABC for an unassessed stock is changed based on an SSC-recommended method under **Preferred Alternative 2** are expected to result in beneficial social effects. The SSC supports using this approach for cases with less information, and the ORCS method is expected to be more representative of actual conditions and stock status. More valid assessments of stock status for the species with limited information available would contribute to improved management with an approach tailored to a specific stock. Additionally, some stocks may appear to have poor stock status, which could be attributed to lack of adequate and updated data instead of actual problems with the species. **Preferred Alternative 2** would be expected to be beneficial to the commercial fleet, for-hire fleet, private anglers, and other resource users because the ORCS method is expected to improve assessment of how much of each stock can be harvested, even if there are not accurate, up-to-date or available fishery-independent data for the stock. Because the ACLs for the species that have been designated as ORCS would not be adjusted to reflect the new SSC method to specify the ABC for these stocks, including information from fishermen and scientific experts, **Alternative 1 (No Action)** would not result in any social benefits. On the other hand, the proposed updates to the ABC control rule under **Preferred Alternative 2** could help to increase some ABCs and associated ACLs, which would be more beneficial to the commercial and for-hire fleets, recreational fishermen, fishing businesses, and communities than maintaining the current ABC control rule under **Alternative 1 (No Action)**.

Action 2. Apply the Revised ABC control rule to select unassessed snapper grouper species

Alternative 1 (No Action). ~~Do not adjust~~ ABCs for select unassessed snapper grouper species are based on the current ABC Control Rule.

COMMITTEE ACTION: Approve edits to No Action Alternative under Action 2.
OPTION 1. APPROVE THE SUGGESTED EDITS TO ALTERNATIVE 1 (NO ACTION) UNDER ACTION 2.
OPTION 2. OTHERS?

Preferred Alternative 2. Assign a risk tolerance scalar to stocks deemed by the SSC to be under low risk of overexploitation (scalar = 2):

Sub-alternative 2a. Apply a risk tolerance scalar of 0.75

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Bar Jack	34,583	2	0.75	51,875	24,780	+27,095

Preferred Sub-alternative 2b. Apply a risk tolerance scalar of 0.90

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Bar Jack	34,583	2	0.90	62,249	24,780	+37,469

Preferred Alternative 3. Assign a risk tolerance scalar to stocks deemed by the SSC to be under moderate risk of overexploitation (scalar = 1.5):

Sub-alternative 3a. Apply a risk tolerance scalar of 0.75

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Margate	63,993	1.5	0.75	71,992	29,889	+42,103
Red Hind	27,570	1.5	0.75	31,016	24,867	+6,149
Cubera Snapper	52,721	1.5	0.75	59,311	24,680	+34,631
Yellowedge Grouper	46,330	1.5	0.75	52,121	30,221	+21,900
Silk Snapper	75,269	1.5	0.75	84,678	25,104	+59,574
White Grunt (South)	735,873	1.5	0.75	827,858	674,033	+153,825
Atlantic Spadefish	677,065	1.5	0.75	761,698	189,460	+572,238
Gray Snapper	1,039,277	1.5	0.75	1,169,187	795,743	+373,444
Lane Snapper	169,572	1.5	0.75	190,769	119,984	+70,785

NOTE: For white grunt, the scalar in Alternative 3 is applied to all landings of white grunt (not just south), and the scalar in Alternative 4 is applied to all white grunt landings (not just north). It is conflicting to choose white grunt in both Preferred Sub-alternative 3b and Preferred Sub-alternative 4a. It would not be appropriate to do both.

The IPT suggests applying the most conservative of the two risk tolerance scalars (that under Preferred Sub-alternative 4a) to all the white grunt landings (north and south) and have the SSC recommend whether the ACL for white grunt needs to be specified separately for the northern and southern stocks.

COMMITTEE ACTION: Provide guidance.
OPTION 1. APPROVE USING A RISK TOLERANCE SCALAR OF 0.70 AND REQUEST THE SSC TO PROVIDE GUIDANCE ON WHETHER SEPARATE ACLS ARE NEEDED FOR WHITE GRUNT.
OPTION 2. OTHERS?

Preferred Sub-alternative 3b. Apply a risk tolerance scalar of 0.80

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Margate	63,993	1.5	0.80	76,792	29,889	+46,903
Red Hind	27,570	1.5	0.80	33,084	24,867	+8,217
Cubera Snapper	52,721	1.5	0.80	63,265	24,680	+38,585
Yellowedge Grouper	46,330	1.5	0.80	55,596	30,221	+25,375
Silk Snapper	75,269	1.5	0.80	90,323	25,104	+65,219
White Grunt (South)	735,873	1.5	0.80	883,048	674,033	+209,015
Atlantic Spadefish	677,065	1.5	0.80	812,478	189,460	+623,018
Gray Snapper	1,039,277	1.5	0.80	1,247,132	795,743	+451,389
Lane Snapper	169,572	1.5	0.80	203,486	119,984	+83,502

Preferred Alternative 4. Assign a risk tolerance scalar to stocks deemed by the SSC to be under moderately high risk of overexploitation (scalar = 1.25):

Preferred Sub-alternative 4a. Apply a risk tolerance scalar of 0.70

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Rock Hind	42,849	1.25	0.70	37,493	37,953	-460
Tomtate	105,909	1.25	0.70	92,670	80,056	+12,614
White Grunt (North)	735,873	1.25	0.70	643,889	674,033	-30,144
Scamp	596,879	1.25	0.70	522,269	509,788	+12,481
Gray Triggerfish	819,428	1.25	0.70	717,000	626,518	+90,482

Sub-alternative 4b. Apply a risk tolerance scalar of 0.75

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference of ABC
Rock Hind	42,849	1.25	0.75	40,171	37,953	+2,218
Tomtate	105,909	1.25	0.75	99,290	80,056	+19,234
White Grunt (North)	735,873	1.25	0.75	689,881	674,033	+15,848
Scamp	596,879	1.25	0.75	559,574	509,788	+49,786
Gray Triggerfish	819,428	1.25	0.75	768,214	626,518	+141,696

Sub-alternative 4c. Apply a risk tolerance scalar of 0.50

Stock	Catch Statistic (Highest landings 1999-2007)	Risk of Overexploitation Scalar	Risk Tolerance Scalar	New ABC (lbs ww)	Current ABC (lbs ww)	Difference in ABC
Rock Hind	42,849	1.25	0.50	26,781	37,953	-11,172
Tomtate	105,909	1.25	0.50	66,193	80,056	-13,863
White Grunt (North)	735,873	1.25	0.50	459,921	674,033	-214,112
Scamp	596,879	1.25	0.50	373,049	509,788	-136,739
Gray Triggerfish	819,428	1.25	0.50	512,143	626,518	-114,375

Biological Effects

Alternative 1 (No Action) would not adjust ABCs, ACLs (including sector ACLs), and ACTs for select unassessed snapper grouper species based on the revisions to the ABC control rule specified in **Action 1**. ACLs for snapper grouper species were set equal to the ABC in Comprehensive ACL Amendment (SAFMC 2011c), Amendment 24 to the Snapper Grouper FMP (SAMFC 2011d), Regulatory Amendment 15 to the Snapper Grouper FMP (SAFMC 2013c), Regulatory Amendment 18 to the Snapper Grouper FMP (SAFMC 2013e), and Regulatory Amendment 19 to the Snapper Grouper FMP (SAFMC 2013f) since the South Atlantic Council felt that the ABC control rule was prescriptive enough to render a buffer between the ABC and ACL unnecessary. The Comprehensive ACL Amendment (SAFMC 2011c) also divided allocations between the recreational and commercial sectors based on landings information from 1986-2008 and 2006-2008; thereby, combining past and present participation. The Comprehensive ACL Amendment (SAFMC 2011c) further established recreational ACTs for species in the Snapper Grouper FMP. The ACTs adjust the ACLs by 50% or by one minus the proportional standard error (PSE) from the recreational sector, whichever is greater based on data from 2005-2009. The South Atlantic Council concluded that including the PSE for the catch estimates into a formula to establish ACT adds a larger buffer for species that are not commonly landed, further accounting for uncertainty. The current ACT functions as a performance standard, and does not trigger an AM. If an evaluation concludes that the ACT and ACL are being chronically exceeded for a species, and post-season AMs are repeatedly needed to correct for ACL overages, adjustments to management measures would be made. For the commercial snapper grouper sector, the South Atlantic Council concluded that quota monitoring and AMs were sufficient to account for management uncertainty. Therefore, the South Atlantic Council did not establish a commercial ACT.

Preferred Alternatives 2-4 consider adjustments to the ABC for select unassessed snapper grouper species based on modifications to the ABC control rule in Action 1. **Table 4.1.1** identifies species that would not be affected by the revisions to the ABC control rule proposed by this amendment. Changes in the ABCs would result in changes to the ACLs as previous amendments have set the ACL equal to the ABC. Furthermore, changes in the ABC results in changes to the sector ACLs based on established commercial and recreational allocations, as well as the recreational ACT, which is a function of the recreational ACL.

Based on methodology in *Calculating Acceptable Biological Catch for Stocks That Have Reliable Catch Data Only (Only Reliable Catch Stocks – ORCS)* (Berkson et al. 2011; **Appendix H**), the South Atlantic Council's SSC recommended an approach (**Preferred Alternative 2** under **Action 1**) to compute the ABC for select unassessed stocks without reliable catch data. The approach involved selection of a "catch statistic", a scalar to denote the risk of overexploitation for the stock, and a scalar to denote the management risk level.

Catch Statistic: The median was considered inadequate to represent the high fluctuation in landings—i.e., to appropriately capture the range of occasional high landings—and the maximum catch over the period 1999-2007 was chosen instead. The time period was chosen to (1) be consistent with the period of landings used in the South Atlantic Council's Comprehensive ACL Amendment, and (2) to minimize the impact of recent regulations and the economic down turn on the landings time series.

Risk of Overexploitation: Based on SSC consensus and expert judgment each stock is assigned to a final risk of exploitation category. See **Appendix H** for a detailed description of the attributes used to assess the level of risk.

A scalar scheme consistent with the Risk of Overexploitation categories is assigned to stocks as follows:

Risk of Overexploitation	Scalar Value
Low	2
Moderate Low	1.75
Moderate	1.5
Moderate High	1.25

Note: given characteristics specific to South Atlantic stocks the SSC agreed that the "catch statistic × scalar" metric developed in this stage of the process may not represent a reliable proxy for overfishing limit (OFL) and, therefore, would not be called OFL or used as such.

The SSC provided the catch statistic and risk of overexploitation for each stock, but the South Atlantic Council must specify their risk tolerance level for each stock as described in **Sub-alternatives 2a-4c**. **Sub-alternative 2a** and **Preferred Sub-alternative 2b** would apply risk tolerance scalars of 0.75 and 0.90, respectively, for stocks with low risk of overexploitation. **Sub-alternative 3a** and **Preferred Sub-alternative 3b** would apply risk tolerance scalars of 0.75 and 0.80, respectively, for stocks with moderate risk of overexploitation. Finally, **Sub-alternatives 4a (Preferred)-4c** would use scalars of 0.70, 0.75, and 0.50, respectively, for stocks with moderately high risk of overexploitation. The sub-alternatives provide the South Atlantic Council with a range of alternatives to select the risk tolerance level for species at different risk levels of overexploitation as specified by the SSC.

The SSC classified only one species, bar jack, as having a low risk of overexploitation. Both sub-alternatives under **Alternative 2** would increase the ABC, sector ACLs, and recreational ACT for bar jack. However, the increase under **Preferred Sub-alternative 2b** would be over an order of magnitude greater than the resulting increase from **Sub-alternative 2a**.

Table 4.2.1. Sector ACLs based on ABC specified in Sub-alternative 2a, which applies a risk tolerance scalar of 0.75 to species with low risk of overexploitation.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Bar Jack	24,780	51,875	21.25%	78.75%	5,265	19,515	11,023	40,852	5,758	21,337	9,927

Table 4.2.2. Sector ACLs based on ABC specified in **Preferred Sub-alternative 2b**, which applies a Risk Tolerance scalar of 0.90 to species with low risk of overexploitation.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	Rec ACL	Diff Comm	Diff Rec	ACT
Bar Jack	24,780	62,249	21.25%	78.75%	5,265	19,515	13,228	49,021	7,963	29,506	11,912

The sub-alternatives under **Alternative 3** would affect stocks deemed by the SSC to be under a moderate risk of overexploitation. Such stocks are margate, red hind, cubera snapper, yellowedge grouper, silk snapper, white grunt (south), Atlantic spadefish, gray snapper, and lane snapper. Both **Sub-alternative 3a** and **Preferred Sub-alternative 3b** would result in increases to the ABCs, ACLs, and ACTs for all stocks mentioned previously.

Table 4.2.3. Sector ACLs based on ABCs specified in Sub-alternative 3a, which applies a risk tolerance scalar of 0.75 to species with moderate risk of overexploitation. ACLs for complexes are determined by applying allocations to a species' ABC within the complex.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Margate[1]	29,889	71,992	18.88%	81.12%	5,643	24,246	13,592	58,400	7,949	34,154	31,641
Red Hind[2]	24,867	31,016	73.60%	26.40%	18,303	6,564	22,828	8,188	4,525	1,625	1,857
Cubera Snapper[3]	24,680	59,311	19.57%	80.43%	4,829	19,851	11,607	47,704	6,778	27,853	12,284
Yellowedge Grouper[4]	30,221	52,121	90.77%	9.23%	27,431	2,790	47,310	4,811	19,880	2,021	960,605
Silk Snapper[4]	25,104	84,678	73.95%	26.05%	18,564	6,541	62,619	22,059	44,056	15,518	690
White Grunt[1] (South)	674,033	827,858	31.59%	68.41%	212,896	461,136	261,520	566,338	48,624	105,201	6,944
Atlantic Spadefish	189,460	761,698	18.53%	81.47%	35,108	154,352	141,143	620,555	106,035	466,204	446,161
Gray Snapper	795,743	1,169,187	24.23%	75.77%	192,830	602,913	283,294	885,893	90,464	282,980	387,847
Lane Snapper[3]	119,984	190,769	14.75%	85.25%	17,695	102,289	28,138	162,631	10,443	60,342	785,256
Deepwater Complex					376,469	334,556	440,404	352,095	63,935	17,539	124,152
Snappers Complex					215,662	728,577	323,348	1,099,752	107,686	371,175	200,068
Grunts Complex					218,539	588,113	275,112	727,468	56,573	139,355	923,453
Shallow Water Groupers Complex					49,776	46,656	54,301	48,281	4,525	1,625	544,352

1. Species included in grunts complex. Does not have ACLs/ACT at the species level.
2. Species included in shallow water grouper complex. Does not have ACLs/ACT at the species level.
3. Species included in the snappers complex. Does not have ACLs/ACT at the species level.
4. Species included in the deepwater complex. Does not have ACLs at the species level.

Table 4.2.4. Sector ACLs based on ABCs specified in **Preferred Sub-alternative 3b**, which applies a risk tolerance scalar of 0.80 to species with moderate risk of overexploitation. ACLs for complexes are determined by applying allocations to a species' ABC within the complex.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Margate	29,889	76,792	18.88%	81.12%	5,643	24,246	14,498	62,294	8,856	38,048	33,751
Red Hind	24,867	33,084	73.60%	26.40%	18,303	6,564	24,350	8,734	6,047	2,171	1,981
Cubera Snapper	24,680	63,265	19.57%	80.43%	4,829	19,851	12,381	50,884	7,552	31,034	13,103
Yellowedge Grouper	30,221	55,596	90.77%	9.23%	27,431	2,790	50,464	5,132	23,034	2,342	736
Silk Snapper	25,104	90,323	73.95%	26.05%	18,564	6,541	66,794	23,529	48,230	16,988	7,407
White Grunt (South)	674,033	883,048	31.59%	68.41%	212,896	461,136	278,955	604,093	66,059	142,957	475,905
Atlantic Spadefish	189,460	812,478	18.53%	81.47%	35,108	154,352	150,552	661,926	115,444	507,574	413,704
Gray Snapper	795,743	1,247,132	24.23%	75.77%	192,830	602,913	302,180	944,952	109,350	342,039	837,605
Lane Snapper	119,984	203,486	14.75%	85.25%	17,695	102,289	30,014	173,472	12,319	71,183	132,428
Deepwater Complex					376,469	334,556	447,733	353,886	71,264	19,330	200,576
Snappers Complex					215,662	728,577	344,884	1,172,832	129,221	444,255	984,898
Grunts Complex					218,539	588,113	293,453	769,117	74,914	181,004	576,205
Shallow Water Groupers Complex					49,776	46,656	55,823	48,826	6,047	2,171	22,294

1. Species included in grunts complex. Does not have ACLs/ACT at the species level.
2. Species included in shallow water grouper complex. Does not have ACLs/ACT at the species level.
3. Species included in the snappers complex. Does not have ACLs/ACT at the species level.
4. Species included in the deepwater complex. Does not have ACLs at the species level.

Sub-alternatives under **Alternative 4** would affect 5 stocks deemed by the SSC to be under moderately high risk of overexploitation. Included are rock hind, tomtate, white grunt (north), scamp, and gray triggerfish. **Preferred Sub-alternative 4a** would result in ABC, ACL, and ACT decreases for two stocks (rock hind and white grunt) and increases for the rest of the stocks, with the highest increase in ABC, ACLs, and ACT affecting the South Atlantic stock of gray triggerfish.

Table 4.2.5. Sector ACLs based on ABCs specified in **Preferred Sub-alternative 4a**, which applies a risk tolerance scalar of 0.70 to species with moderately high risk of overexploitation. ACLs for complexes are determined by applying allocations to a species' ABC within the complex.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Rock Hind[1]	37,953	37,493	60.90%	39.10%	23,115	14,838	22,833	14,660	-281	-178	5,667
Tomtate[2]	80,056	92,670	0.00%	100.00%	0	80,056	0	92,670	0	12,614	63,535
White Grunt[2] (North)	674,033	643,889	31.59%	68.41%	212,896	461,136	203,405	440,484	-9,492	-20,652	347,014
Scamp	509,788	522,269	65.34%	34.66%	333,100	176,688	341,251	181,018	8,151	4,330	96,628
Gray Triggerfish	626,518	717,000	43.56%	56.44%	272,880	353,638	312,325	404,675	39,445	51,037	325,359
Grunts Complex					218,539	588,113	209,047	580,074	-9,492	-8,038	435,348
Shallow Water Groupers Complex					49,776	46,656	54,256	41,716	4,480	-4,940	20,003

1. Species included in shallow water grouper complex. Does not have ACLs/ACT at the species level.
2. Species included in grunts complex. Does not have ACLs/ACT at the species level.

Table 4.2.6. Sector ACLs based on ABCs specified in Sub-alternative 4b, which applies a risk tolerance scalar of 0.75 to species with moderately high risk of overexploitation. ACLs for complexes are determined by applying allocations to a species' ABC within the complex.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Rock Hind[1]	37,953	40,171	60.90%	39.10%	23,115	14,838	24,464	15,707	1,350	869	6,072
Tomtate[2]	80,056	99,290	0.00%	100.00%	0	80,056	0	99,290	0	19,234	68,073
White Grunt[2] (North)	674,033	689,881	31.59%	68.41%	212,896	461,136	217,933	471,948	5,037	10,811	371,800
Scamp	509,788	559,574	65.34%	34.66%	333,100	176,688	365,626	193,948	32,526	17,260	103,530
Gray Triggerfish	626,518	768,214	43.56%	56.44%	272,880	353,638	334,634	433,580	61,754	79,942	348,598
Grunts Complex					218,539	588,113	223,576	618,158	5,037	30,045	464,674
Shallow Water Groupers Complex					49,776	46,656	56,227	42,423	6,451	-4,233	20,276

1. Species included in shallow water grouper complex. Does not have ACLs/ACT at the species level.
2. Species included in grunts complex. Does not have ACLs/ACT at the species level.

Table 4.2.7. Sector ACLs based on ABCs specified in Sub-alternative 4c, which applies a risk tolerance scalar of 0.50 to species with moderately high risk of overexploitation. ACLs for complexes are determined by applying allocations to a species' ABC within the complex.

Stock	Current ABC	New ABC	Comm Alloc	Rec Alloc	Current Comm ACL	Current Rec ACL	New Comm ACL	New Rec ACL	Diff Comm	Diff Rec	ACT
Rock Hind[1]	37,953	26,781	60.90%	39.10%	23,115	14,838	16,310	10,471	-6,805	-4,367	4,048
Tomtate[2]	80,056	66,193	0.00%	100.00%	0	80,056	0	66,193	0	-13,863	45,382
White Grunt[2] (North)	674,033	459,921	31.59%	68.41%	212,896	461,136	145,289	314,632	-67,607	-146,504	247,867
Scamp	509,788	373,049	65.34%	34.66%	333,100	176,688	243,750	129,299	-89,350	-47,390	69,020
Gray Triggerfish	626,518	512,143	43.56%	56.44%	272,880	353,638	223,089	289,054	-49,791	-64,584	232,399
Grunts Complex					218,539	588,113	150,932	427,745	-67,607	-160,368	318,049
Shallow Water Groupers Complex					49,776	46,656	42,971	47,525	-6,805	869	18,909

1. Species included in shallow water grouper complex. Does not have ACLs/ACT at the species level.
2. Species included in grunts complex. Does not have ACLs/ACT at the species level.

An increase in harvest can have a negative biological impact on a species if harvest is not maintained at sustainable levels. However, all of the sub-alternatives under this action were developed by the South Atlantic Council's SSC's ORCS approach and would not be expected to cause overfishing and result in negative biological impacts. There is uncertainty involved through the selection of the risk of overexploitation scalar (determined by the SSC) and the selection of the risk tolerance scalar (which would be selected by the South Atlantic Council under this action). If the South Atlantic Council selects the risk tolerance scalar to achieve the most conservative values of ABC, any biological impacts would be minimized. However, while conservative ABCs may provide the greatest biological benefit to the species, higher ABCs would not be expected to negatively impact the stock as long as harvest is maintained at sustainable levels and overfishing does not occur. Furthermore, harvest for most species listed under the sub-alternatives is currently not constrained by the ACLs. If harvest continues to be less the ACLs resulting from the proposed ABCs for sub-alternatives, no biological effects would be expected.

Regardless of the alternative or sub-alternative select, none is anticipated to have adverse effects on listed *Acropora* species, large whales, or any distinct population segment (DPS) of Atlantic sturgeon. Previous Endangered Species Act (ESA) consultations determined the hook-and-line sector of the snapper grouper fishery was not likely to adversely affect *Acropora* species, large whales, or any DPS of Atlantic sturgeon. For the species that may interact with the fishery (i.e., sea turtles and smalltooth sawfish), there is likely to be no additional biological benefit from **Alternative 1 (No Action)** because it would perpetuate the existing level of risk for interactions between these ESA-listed species and the fishery. The impacts from **Alternatives 2, 3,** and **4,** and associated sub-alternatives, on sea turtles and smalltooth sawfish are unclear. The ACLs under **Preferred Sub-Alternatives 2b** and **3b** would be higher than under the other **Sub-Alternatives 2a** and **3a.** If these proposed ACLs lead to greater fishing effort in the fishery as a whole, both preferred alternatives would likely be less biologically beneficial to sea turtles and smalltooth sawfish. Conversely, if the proposed ACL increases do not increase fishing effort as a whole but simply shift the level of existing effort than these alternatives are unlikely to change the level of interaction between sea turtles and smalltooth sawfish and the fishery as a whole. Based on the same

rationale, **Preferred Sub-Alternative 4a** is likely to have more biological benefit to sea turtles and smalltooth sawfish than **Sub-Alternative 4b**, but less biologically beneficial than **Sub-Alternative 4c**.

Economic Effects

Alternative 1 (No Action) would not implement the revised ABC control rule (**Preferred Alternative 2** of **Action 1**) for any snapper grouper species, while **Alternatives 2, 3** and **4** would. **Alternative 2** would change the ABC for one stock, **Alternative 3** would change the ABCs for nine stocks and **Alternative 4** would change the ABCs for five stocks.

Preferred Sub-alternative 2b and **Sub-alternative 2a** would increase the ABC for bar jack; however, **Preferred Sub-alternative 2b** has the largest increase in ABC, and would allow for the largest increase in the ACLs, landings, and associated economic benefits from bar jack. The changes in the ABCs, with their corresponding changes in ACLs, represent only potential changes in actual annual landings. For example, if annual landings of bar jack have always been less than the ACL, it is unlikely that an increase in the ACL caused by either **Preferred Sub-alternative 2b** or **Sub-alternative 2a** would result in increased landings. In both 2012 and 2013, commercial landings of bar jack were less than the commercial ACL for the stock. Approximately 61% of the commercial ACL of 6,686 pounds whole weight (lbs ww) was landed in 2012 and approximately 97% of the commercial ACL of 5,265 lbs ww was landed as of December 31, 2013, although landings data for 2013 are incomplete. **Preferred Sub-alternative 2b** and **Sub-alternative 2a** would increase the commercial ACL for bar jack to over 10,000 lbs ww. If 2012 and 2013 commercial landings are representative of current and future annual landings, **Alternative 2** (**Preferred Sub-alternative 2b** and **Sub-alternative 2a)** would have the same economic impact on commercial fishing for bar jack as **Alternative 1 (No Action)**. Similarly, recreational landings of bar jack have been lower than the recreational ACL. Through August, there were no reported recreational landings of the species in 2013, and in 2012, approximately 18% of the ACL of 13,834 lbs ww was landed. **Preferred Sub-alternative 2b** and **Sub-alternative 2a** would increase the recreational ACL to over 40,000 lbs ww. If 2012 and 2013 recreational landings are representative of current and future annual recreational landings, **Alternative 2** (**Preferred Sub-alternative 2b** and **Sub-alternative 2a)** would not yield a change in recreational landings of bar jack and would have the same economic impact on recreational fishing for bar jack as **Alternative 1 (No Action)**.

Alternative 3 (**Preferred Sub-Alternative 3b** and **Sub-alternative 3a**) would increase the commercial and recreational ACLs for nine stocks, while decreasing none (**Table 4.2.8**). Therefore, **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a)** would allow for increases in both commercial and recreational landings; however, those increases are potentials that may not be realized.

Table 4.2.8. Changes in commercial and recreational ACLs by Alternatives 1 (No Action) and 3 under Action 2.

Stock	Change in Commercial ACL (lbs ww)			Change in Recreational ACL (lbs ww)		
	Alt. 1	Alt. 3a	Pref. Sub-alt. 3b	Alt. 1	Alt. 3a	Pref. Sub-alt. 3b
Atlantic Spadefish	0	106,035	**115,444**	0	466,204	**507,574**
Cubera Snapper	0	6,778	**7,552**	0	27,583	**31,034**
Gray Snapper	0	90,464	**109,350**	0	282,980	**342,039**
Lane Snapper	0	10,443	**12,319**	0	60,342	**71,183**
Margate	0	7,949	**8,856**	0	34,154	**38,048**
Red Hind	0	4,525	**6,047**	0	1,625	**2,171**
Silk Snapper	0	44,056	**48,230**	0	15,518	**16,988**
White Grunt (South)	0	48,624	**66,059**	0	105,201	**142,957**
Yellowedge Grouper	0	19,880	**23,034**	0	2,021	**2,342**

Annual commercial landings of Atlantic spadefish reached 27,418 lbs ww in 2012, and by December 31, 2013, commercial landings of Atlantic spadefish reached almost 9% of the commercial ACL of 35,108 lbs ww, although 2013 landings data may be incomplete. **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a)** would increase the commercial ACL for Atlantic spadefish to over 140,000 lbs ww. If 2012 and 2013 landings are representative of current and future annual landings, **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would not result in increased commercial landings of Atlantic spadefish and would yield no economic impacts beyond the status quo of **Alternative 1** (**Table 4.2.9**).

Recreational landings of Atlantic spadefish reached 187,106 lbs ww in 2012. Through August 2013, recreational landings represented 34% of the recreational ACL of 154,352 lbs ww. If that rate continued through the end of 2013, approximately 51% of the recreational ACL would have been landed in 2013. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the recreational ACL for Atlantic spadefish to more than 620,000 lbs ww. If 2013 annual landings represent current and future landings, **Alternative 3** (**Preferred Sub-alternative 3b** and **3a)** would not yield an increase in recreational landings of Atlantic spadefish and would have no economic impact beyond the status quo. However, if 2012 landings are more representative of current and future recreational landings**, Alternative 3** (**Preferred Sub-alternatives 3b** and **Sub-alternative 3a** would increase recreational landings of Atlantic spadefish by 32,754 lbs ww (**Table 4.2.2**) and economic benefits that derive from those landings. When possible, dollar estimates of those additional economic benefits would be provided; however, there is presently insufficient information to do that here.

Table 4.2.9. Expected change in Atlantic spadefish by Alternatives 1 (No Action) and 3 under Action 2.

Stock	Change in Commercial Landings (lbs ww)			Change in Recreational Landings (lbs ww)		
	Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b	Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b
Atlantic Spadefish	0 ($0)	0 ($0)	**0 ($0)**	0	0 to 32,754	**0 to 32,754**

Each of the other eight stocks affected by **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a)** is part of a larger complex with its own ACL. Cubera, lane, and gray snapper, for example, are part of the snappers complex, which presently has a recreational ACL of 728,577 lbs ww and commercial ACL of 215,662 lbs ww. Each ACL for a complex is the sum of the ACLs for the species that make up the complex, and landings of the component species count against the ACL for the complex. Therefore, the economic effects of **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a**) on fishing for the eight stocks are assessed at the complex level.

Alternative 3 (**Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the commercial and recreational ACLs for the snappers, grunts, shallow-water groupers, and deepwater complexes and allow for increases in landings; however, **Preferred Sub-alternative 3b** would allow the largest increase in those landings (**Table 4.2.10**). Commercial landings of snappers reached 124,245 lbs ww in 2012, and by December 31, 2013, reached 135,570 lbs ww, although landings data for 2013 are not complete. Those preliminary 2013 landings represent approximately 63% of the commercial ACL. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the commercial ACL for snappers by more than 100,000 lbs ww (**Table 4.2.10**). From those figures, it is estimated that **Alternative 3** (**Preferred Sub-alternative 3b and Sub-alternative 3a**) would not change commercial landings of snappers and economic benefits. **Alternative 3** would have the same economic impact as **No Action Alternative 1** (**Table 4.2.11**).

Table 4.2.10. Changes in ACLs for complexes by Alternatives 1 (No Action) and 3 under Action 2.

Stock	Complex	Change in Commercial ACL (lbs ww)			Change in Recreational ACL (lbs ww)		
		Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b	Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b
Cubera Snapper	Snappers	0	107,686	**129,221**	0	371,175	444,255
Gray Snapper							
Lane Snapper							
Margate	Grunts	0	56,573	**74,914**	0	139,355	181,044
White Grunt (South)							
Red Hind	Shallow-water Grouper	0	4,525	**6,047**	0	1,625	2,171
Silk Snapper	Deepwater Complex	0	63,935	**71,264**	0	17,539	19,330
Yellowedge Grouper							

Recreational landings of the snappers complex reached almost 0.43 million lbs ww in 2012 and by the end of August 2013 had reached approximately 0.55 million lbs ww (76%) of the recreational ACL that year. Assuming that same rate of landings continued through the end of 2013, it is estimated that 830,960 lbs ww of the snappers complex were landed by anglers in 2013, exceeding the recreational ACL of 728,577 lbs ww. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the recreational ACL for the snappers complex by over 370,000 lbs ww. If 2012 landings are representative of present

and future recreational landings of the complex, **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a** would not change recreational landings of snappers and their economic benefits would be the same as **Alternative 1 (No Action)** (**Table 4.2.11**). However, if the estimate of 2013 landings is more representative of recreational snappers complex landings, **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase recreational landings by 102,384 lbs ww and increase economic benefits that derive from recreational harvest of the snappers complex beyond the status quo of **Alternative 1 (No Action)**.

Table 4.2.11. Changes in landings for complexes by Alternatives 1 (No Action) and 3 under Action 2.

Stock	Complex	Change in Commercial Landings (lbs ww)			Change in Recreational Landings (lbs ww)		
		Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b	Alt. 1	Sub-alt. 3a	Pref. Sub-alt. 3b
Cubera Snapper	Snappers	0 ($0)	0 ($0)	**0 ($0)**	0	0 to 102,384	**0 to 102,384**
Gray Snapper							
Lane Snapper							
Margate	Grunts	0 ($0)	0 ($0)	**0 ($0)**	0	0	**0**
White Grunt (South)							
Red Hind	Shallow-water Grouper	0 ($0)	0 ($0)	**0 ($0)**	0	0	**0**
Silk Snapper	Deep-water Complex	0 ($0)	0 to 63,935 ($0 to $127,870)	**0 to 71,264 ($0 to $142,528)**	0	0 to 17,543	**0 to 19,335**
Yellowedge Grouper							

Commercial landings of the grunts complex reached 106,377 lbs ww in 2012, and by December 31, 2013, had reached 94,768 lbs ww, which is approximately 44% of the commercial ACL of 218,539 lbs ww. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the commercial ACL to over 275,000 lbs ww. Based on the 2012 and 2013 landings, it is estimated that **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a**) would have no effect on commercial landings of grunts and would have the same economic impact as **Alternative 1 (No Action)** on commercial fishing for the grunts complex (**Table 4.2.11**).

In 2012, recreational landings of the grunts complex reached approximately 0.41 million lbs ww. By the end of August 2013, recreational landings of the complex reached 128,754 lbs ww. If the same rate of landings occurred for the remainder of the year, an estimated 193,396 lbs ww of grunts (33% of the ACL) were landed by anglers in 2013. If 2012 and 2013 landings are representative of current and future landings, **Alternative 3** (**Preferred Sub-alternative 3b** and **3a**) would have no impact on recreational landings of grunts and would have the same economic impact as **Alternative 1 (No Action)** on recreational fishing for the grunts complex (**Table 4.2.11**).

Commercial landings of shallow-water grouper reached 17,813 lbs ww in 2012. Although those landings represented approximately 36% of the ACL, the commercial season was closed before the end of the year because regulations at that time prohibited commercial harvest of all shallow-water grouper when the gag quota was met. That regulation was lifted in October 2013. If the 2012 season had not been closed early, it is estimated that 23,216 lbs ww would have been landed that year. In 2013, approximately

39% of the commercial ACL of 49,776 lbs ww was landed by December 31, 2013, although landings data for the year are not final. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the commercial ACL for shallow-water grouper to over 54,000 lbs ww. If 2012 and 2013 landings are representative of current and future commercial landings of shallow-water grouper, **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a**) would have the same economic impacts on commercial fishing for shallow-water grouper as **No Action Alternative 1** (**Table 4.2.11**).

In 2012, recreational landings of shallow-water grouper reached 19,552 lbs ww, and by the end of August 2013, recreational landings reached 10,781 lbs ww. At that rate, recreational landings would total 16,194 lbs ww in 2013, which represents approximately 35% of the recreational ACL of 46,656 lbs ww. From those figures, it is estimated that **Alternative 1 (No Action)** and **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a)** would have the same impact on recreational landings of shallow-water grouper and same economic impacts on recreational fishing for shallow-water grouper (**Table 4.2.11**).

Deepwater complex commercial landings exceeded the ACL in 2012 and the season was closed on September 8. By that date, commercial landings reached 383,951 lbs ww. If the complex had not closed early that year and landings occurred at the same rate for the remainder of the year, it is estimated that 559,865 lbs ww would have been landed in 2012. As of December 31, 2013, commercial landings reached 270,566 lbs ww (approximately 72% of the ACL), although landings data for 2013 are not complete. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the commercial ACL to 440,404 lbs ww and 447,733 lbs ww, respectively. If 2013 commercial landings are representative of current and future landings, **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a**) would have the same impact as **Alternative 1 (No Action)** on commercial landings of the deepwater complex and same economic benefits that derive from those landings (**Table 4.2.11**). However, if the estimate of what 2012 commercial landings could have been (559,865 lbs ww) if not for an earlier closure is more representative of current and future landings, **Sub-alternative 3a** would increase commercial landings by 63,935 lbs ww and **Preferred Sub-alternative 3b** by 71,264 lbs ww (**Table 4.2.11**). With an average dockside price of $2 per lb ww (2012 NMFS ALS, confidential data excluded), **Preferred Sub-alternative 3b** could increase annual dockside revenue from deepwater complex fishing by $142,528 and **Sub-alternative 3a** could increase it by $127,870. **Alternative 1 (No Action)** would not increase dockside revenue. Higher landings are not without added trip-related costs, so the net economic benefits from the higher landings would be equal to dockside revenue less the associated costs.

Recreational landings of the deepwater complex reached 107,849 lbs ww in 2012, and by the end of August 2013, equaled 331,811 lbs ww, which is approximately 99% of the recreational ACL. **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would increase the recreational ACL from 334,556 lbs ww to over 350,000 lbs ww. If 2012 landings are representative of current and future annual landings, **Alternative 3** (**Preferred Sub-alternative 3b** and **Sub-alternative 3a**) would not change recreational landings of the deepwater complex and **Preferred Sub-alternative 3b** and **Sub-alternative 3a** would have the same economic impact as **Alternative 1 (No Action)** on recreational fishing for the complex. However, if the rate of 2013 recreational landings through the end of August are continued through the year, an estimated 498,399 lbs ww would have been landed. If those 498,399 lbs ww represent current and future annual landings, **Sub-alternative 3a** would increase annual recreational landings by 17,539 lbs ww and **Preferred Sub-alternative 3b** by 19,330 lbs ww (**Table 4.2.12**). **Preferred Sub-alternative 3b**

would have the largest beneficial economic impact on recreational fishing for the deepwater complex, followed by **Sub-alternative 3a** and **Alternative 1 (No Action)**.

Alternative 4 (**Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c)** would change the ACLs for rock hind, tomtate, white grunt (north), scamp, and gray triggerfish. Rock hind is part of the shallow water grouper complex and tomtate and white grunt (north) are part of the grunts complex. Consequently, the economic impacts of **Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c** are assessed at the complex level for those species. **Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c** are assessed by focusing on the changes to the complex's ACLs. Individual ACL changes are combined to assess the change of the ACL of the complex (**Table 4.2.12**).

Table 4.2.12. Change in ACLs by Alternatives 1 (No Action) and 4.

Stock	Complex	Change in Commercial ACL (lbs ww)			
		Alt. 1	**Pref. Sub-alt. 4a**	**Sub-alt. 4b**	**Sub-alt. 4c**
Rock Hind	Shallow-water grouper	0	**4,480**	6,451	-6,805
Tomtate	Grunts	0	**-9,492**	5,037	-67,607
White Grunt (North)					
Scamp		0	**8,151**	32,526	-89,350
Gray Triggerfish		0	**39,445**	61,754	-49,791
Stock	Complex	Change in Recreational ACL (lbs ww)			
		Alt. 1	**Pref. Sub-alt. 4a**	**Sub-alt. 4b**	**Sub-alt. 4c**
Rock Hind	Shallow-water grouper	0	**-4,940**	-4,233	-869
Tomtate	Grunts	0	**-8,038**	30,045	-160,368
White Grunt (North)					
Scamp		0	**4,330**	17,260	-47,390
Gray Triggerfish		0	**51,037**	79,942	-64,584

As stated previously, if the 2012 commercial season for shallow-water grouper had not been closed early, it is estimated that 23,216 lbs ww would have been landed that year. In 2013, approximately 39% of the commercial ACL of 49,776 lbs ww was landed by December 31, although landings data for the year are not final. **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would increase the commercial ACL for shallow-water grouper to over 54,000 lbs ww, while **Sub-alternative 4c** would reduce the commercial ACL from 49,656 lbs ww to 42,971 lbs ww. If 2012 and 2013 landings are representative of current and future commercial landings of shallow-water grouper, **Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c** would not change commercial landings and would have the same economic impact on commercial fishing for shallow-water grouper as **Alternative 1** (**Table 4.2.13**). Note that **Preferred Sub-alternative 3b** would increase the commercial ACL for the shallow-water grouper complex to 55,823 lbs ww and **Preferred Sub-alternative 4a** would increase it to 54,256 lbs ww.

Recreational landings of shallow-water grouper reached 19,552 lbs ww in 2012, and it is estimated that recreational landings would total 16,194 lbs ww in 2013, which represents approximately 35% of the recreational ACL of 46,656 lbs ww. **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would reduce the recreational ACL for shallow-water grouper to 41,716 lbs ww and 42,423 lbs ww, respectively, and **Sub-alternative 4c** would increase it to 47,525 lbs ww. If 2012 and 2013 landings are representative of current and future recreational landings of the shallow-water grouper complex, **Alternative 4** (**Preferred Sub-alternative 4a** and **Sub-Alternatives 4b** and **4c)** would have the same impact on recreational landings and associated economic benefits as **No Action Alternative 1** (**Table 4.2.13**). Note that **Preferred Sub-alternative 3b** would set the recreational ACL for the complex at 48,826 lbs ww and **Preferred Sub-alternative 4a** would set it at 41,716 lbs ww.

Table 4.2.13. Change in landings by Alternatives 1 (No Action) and 4 under Action 2.

Stock	Complex	Change in Commercial Landings (lbs ww)			
		Alt. 1	Pref Sub-alt. 4a	Sub-alt. 4b	Sub-alt. 4c
Rock Hind	Shallow Water grouper	0 ($0)	**0 ($0)**	0 ($0)	0 ($0)
Tomtate	Grunts	0 ($0)	**0 ($0)**	0 ($0)	0 ($0)
White Grunt (North)					
Scamp		0 ($0)	**0 ($0)**	0 ($0)	0 ($0)
Gray Triggerfish		0 ($0)	**39,445 ($15,567)**	61,754 ($25,937)	-49,791 (-$20,912)
Stock	Complex	Change in Recreational Landings (lbs ww)			
		Alt. 1	Pref. Sub-alt. 4a	Sub-alt. 4b	Sub-alt. 4c
Rock Hind	Shallow Water grouper	0	**0**	0	0
Tomtate	Grunts	0	**0**	0	0
White Grunt (North)					
Scamp		0	**0**	0	0
Gray Triggerfish		0	**0 to 29,828**	8,609 to 29,828	-64,553 to 0

Commercial landings of the grunts complex reached 106,377 lbs ww in 2012, and by December 31, 2013, had reached 94,768 lbs ww, which is approximately 44% of the commercial ACL of 218,539 lbs ww. **Preferred Sub-alternative 4a** and **Sub-alternative 4c** would reduce the commercial ACL to 209,047 lbs ww and 150,932 lbs ww, respectively, while **Sub-alternative 4b** would increase it to 223,576 lbs ww. If 2012 or 2013 landings are representative of current and future annual landings, **Alternative 4** (**Preferred Sub-alternative 4a and Sub-alternatives 4b** and **4c**) would have the same impact on commercial landings of grunts and associated economic benefits as **Alternative 1** (**Table 4.2.13**). Note that **Preferred Sub-alternative 4a** would set the commercial ACL for the grunts complex at 209,047 lbs ww, while **Preferred Sub-alternative 3b** would set it at 293,453 lbs ww.

Recreational landings of the grunts complex reached approximately 0.41 million lbs ww in 2012. By the end of August 2013, recreational landings of the complex reached 128,754 lbs ww. If the same rate of

landings occurred for the remainder of the year, an estimated 193,396 lbs ww of grunts (33% of the ACL) were landed by anglers in 2013. **Preferred Sub-alternative 4a** and **Sub-alternative 4c** would decrease the recreational ACL to 580,074 lbs ww and 427,745 lbs ww, respectively. **Sub-alternative 4b** would increase it to 618,158 lbs ww. If 2012 and 2013 landings are representative of current and future landings, **Alternative 4** (**Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c**) would have no effect on recreational landings and associated economic benefits from recreational fishing for the grunts complex beyond **Alternative 1 (No Action)**. Note that **Sub-alternative 4a** would set the recreational ACL for the grunts complex at 580,074 lbs ww, while **Preferred Sub-alternative 3b** would set it at 769,117 lbs ww.

Commercial landings of scamp were 175,564 lbs ww in 2012. Although those landings represented approximately 51% of the ACL, regulations at the time required that commercial harvest for shallow-water groupers be closed when the gag quota was met, which resulted in an early closure. If the harvest rate of scamp when the commercial sector was open is applied for the remainder of the season, an estimated 228,816 lbs ww would have been landed in 2012. As of December 31, 2013, approximately 40% (132,609 lbs ww) of the ACL of 333,100 was landed; however, 2013 landings are incomplete. **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would increase the commercial ACL for scamp to 341,251 lbs ww and 365,626 lbs ww, respectively, while **Sub-alternative 4c** would lower it to 243,750 lbs ww. If 2012 and 2013 landings are representative of current and future commercial landings, **Alternative 4** (**Preferred Sub-alternatives 4a** and **Sub-alternatives 4b** and **4c)** would have the same impact on commercial landings of scamp and associated economic benefits as **Alternative 1** (**Table 4.2.13**).

Recreational landings of scamp reached 78,446 lbs ww, and as of the end of August 2013, recreational landings totaled 22,434 lbs ww. If the rate of recreational landings through August applies for the remainder of the season, 33,697 lbs ww would have been landed in 2013. **Preferred Sub-alternative 4a** would increase the recreational ACL to 181,018 lbs ww and **Sub-Alternative 4b** would raise it to 193,948 lbs ww. **Sub-alternative 4c** would lower it to 129,299 lbs ww. The present recreational ACL for scamp is 176,688 lbs ww. If 2012 and 2013 landings are representative of current and future annual landings, it is estimated that **Alternative 1 (No Action)** and **Alternative 4** (**Preferred Sub-alternative 4a** and **Sub-alternatives 4b** and **4c** would have the same impact on recreational landings of scamp and same economic benefits from recreational fishing for scamp (**Table 4.2.13**).

Commercial landings of gray triggerfish exceeded the ACL in 2012 and 2013. Landings were 312,617 lbs ww in 2012 and 296,934 lbs ww in 2013 when the seasons closed. Presently, the commercial ACL for gray triggerfish is 272,880 lbs ww. If the 2013 season had not been closed, it is estimated that 341,896 lbs ww would be landed, and if the 2012 season had not closed, 438,383 lbs ww would have been landed. **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would increase the commercial ACL to 312,325 lbs ww and 334,634 lbs ww, respectively, while **Sub-alternative 4c** would reduce it to 223,089 lbs ww. If 2012 and 2013 landings are representative of current and future annual commercial landings, **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would result in increased annual commercial landings of gray triggerfish of 39,445 lbs ww and 61,754 lbs ww, respectively. With an average price of $0.42 per lbs ww (2012 NMFS ALS, confidential data excluded), **Preferred Sub-alternative 4a** would increase annual dockside revenue from gray triggerfish landings by $15,567 and **Sub-alternative 4b** would increase that revenue by $25,937. **Sub-alternative 4c** would lower annual landings by 49,791 lbs ww and annual dockside revenue by $20,912. The order of sub-alternatives from highest to lowest

economic gain would be: **Sub-alternative 4b**, **Preferred Sub-alternative 4a**, **Alternative 1 (No Action)** and **Sub-alternative 4c**.

Recreational landings of gray triggerfish reached 383,466 lbs ww in 2012, and, in 2013, through August, recreational landings totaled 187,925 lbs ww. It is estimated that if that rate continued through the end of 2013, recreational landings would have reached 282,274 lbs ww that year. The recreational ACL for gray triggerfish is presently 353,638 lbs ww. **Preferred Alternative 4a** and **Sub-alternative 4b** would increase the recreational ACL to 404,675 lbs ww and 433,580 lbs ww, respectively. **Sub-alternative 4c** would decrease the recreational ACL to 289,054 lbs ww. If 2013 landings are representative of current and future annual recreational landings of gray triggerfish, **Alternative 4** (**Preferred Sub-alternatives 4a** and **Sub-alternatives 4b** and **4c**) would not change recreational landings and would have the same economic impact **Alternative 1 (No Action).** However, if 2012 landings are more representative of current and future annual recreational landings, **Preferred Sub-alternative 4a** and **Sub-alternative 4b** would increase annual recreational landings by 29,828 lbs ww. **Sub-alternative 4c** would reduce annual recreational landings by 64,584 lbs ww (**Table 4.2.13**).

Social Effects

Adjustments in the ABC and the ACLs for any stock would not directly affect resource users unless the ACL is met or exceeded, in which case AMs, which restrict or close harvest, could negatively impact the commercial fleet, for-hire fleet, and private anglers. In general, the higher the ACL, the greater the short-term social and economic benefits that would be expected to accrue, assuming long-term recovery and rebuilding goals are met. Adhering to stock recovery and rebuilding goals is assumed to result in net long-term positive social and economic benefits. Additionally, adjustments in an ACL based on updated information from a stock assessment would be the most beneficial in the long term to fishermen and communities because catch limits would be based on the current conditions.

In general, a higher ACL would be more beneficial to commercial and recreational fishermen as long as it is set to prevent overfishing. Except for **Alternative 1 (No Action), Preferred Sub-Alternative 4a** (two species), and **Sub-alternative 4c**, the ACLs would increase for the designated species under the alternatives and sub-alternatives.

For species that have had in-season commercial closures in recent years or could have closures in the near future as landings have come near the ACL, an increase in the ACL would be expected to improve harvest opportunities and extend the seasons. For example, gray triggerfish closed to commercial harvest before the end of the fishing year in 2012 and 2013 due to the commercial ACL being met. Under **Preferred Sub-alternative 4a** and **Sub-alternative 4b**, the commercial ACL for gray triggerfish are expected to increase, which could help lower the likelihood that this popular species in the snapper grouper fishery would have a commercial closure. However, under **Sub-alternative 4c** the commercial ACL for gray triggerfish would decrease, respectively, which could result in more frequent and earlier closures for both sectors.

However, because the ACLs (commercial or recreational) for most of the species have not recently been met or exceeded, the increases under **Sub-alternatives 2a, Preferred 2b, 3a, Preferred 3b, 3c, Preferred 4a,** and **4b** are not expected to affect commercial and recreational fishermen harvesting these species. The lower ACLs expected under **Sub-alternative 4c** could impact some of the stocks if harvest increases in the future.

Action 3. Modify the ~~measurement method for gray triggerfish and establish a size limit~~ minimum size limit for gray triggerfish

COMMITTEE ACTION: Approve recommended edits to Action 3.
OPTION 1. APPROVE THE SUGGESTED EDITS TO ACTION 3.
OPTION 2. OTHERS?

Alternative 1 (No Action). Currently, the minimum size limit for gray triggerfish is specified in inches total length (TL) in federal waters off east Florida only. In Florida state waters, the minimum size for gray triggerfish is specified in inches fork length (FL). The minimum size limit is 12 inches TL in federal waters off east Florida and 12 inches FL in east Florida state waters.

Alternative 2. Specify a minimum size limit for gray triggerfish of 12 inches fork length (FL) in federal waters off east Florida.

Preferred Alternative 3. Specify a minimum size limit for gray triggerfish of 12 inches fork length (FL) in federal waters off North Carolina, South Carolina, Georgia, and east Florida.

Alternative 4. Specify a minimum size limit for gray triggerfish of 14 inches fork length (FL) in federal waters off North Carolina, South Carolina, Georgia, and east Florida.

Biological Effects

Currently the commercial and recreational minimum size limit for South Atlantic gray triggerfish is 12 inches total length (TL) in federal waters off east Florida and 12 inches fork length (FL) in east Florida state waters (**Alternative 1, No Action**). In the Gulf of Mexico exclusive economic zone (EEZ), and in state waters off west Florida, the commercial and recreational minimum size limit is 14 inches FL. The South Atlantic Council is considering alternatives to modify the minimum size limit.

A stock assessment for South Atlantic gray triggerfish (SEDAR 32), which is currently underway, has provided an equation to estimate TL from a FL measurement (**Table 4.3.1**). Based on this equation, a 12-inch TL gray triggerfish is equal to a 10.46 inch FL gray triggerfish. SEDAR 32 determined the mid-range of discard mortality to be 12.5%. This information was used in the size limit analysis for Action 3. Additional information on the details on the gray triggerfish size limit analysis can be found in **Appendix G**.

Table 4.3.1. Total length to fork length conversions for South Atlantic gray triggerfish.

Conversion	Model
Total Length (mm) to Fork Length (mm)	Total Length = 1.19*(Fork Length) – 11.42

Source: SEDAR 32.

Commercial Sector

Alternative 1 (No Action) would retain the minimum size limit for gray triggerfish at 12 inches TL in federal waters off east Florida and 12 inches FL in east Florida state waters. A commercial ACL of 305,262 lbs ww was implemented for the commercial sector of gray triggerfish in the South Atlantic through the Comprehensive ACL Amendment on April 16, 2012 (SAFMC 2011c). Effective July 17, 2013, Regulatory Amendment 13 (SAFMC 2013b) revised the commercial ACL for gray triggerfish to 272,880 lbs ww. The ABC for gray triggerfish specified under **Preferred Sub-alternative 4a** in **Action 2** would result in a commercial ACL 312,325 lbs ww. Commercial landings for gray triggerfish steadily increased from 2007 to 2011 (**Table 4.3.2**). However, landings decreased to 312,627 lbs ww in 2012 because the 305,262 lb ww commercial ACL resulted in an in-season commercial closure. Historical landings would have exceeded the 2012 and 2013 commercial ACLs, as well as the gray triggerfish ACL that would result from **Preferred Sub-alternative 4a** under Action 2 (**Table 4.3.2**).

Table 4.3.2. Annual commercial landings by area for gray triggerfish in the South Atlantic (2007-2012) compared with the current commercial ACL (ACL 1) and the proposed commercial ACL based on the preferred alternative in Action 2 (ACL 2).

Year	NC, SC, & GA Federal	NC, SC, & GA State	Florida Federal	Florida State	Total Landings	ACL 1	% of ACL 1	ACL 2	% of ACL 2
2007	275,669	129	62,348	295	338,441	272,880	124	312,325	108
2008	291,841	71	43,185	355	335,452	272,880	123	312,325	107
2009	313,139	5,006	55,287	678	374,110	272,880	137	312,325	120
2010	360,718	57	103,960	1,816	466,551	272,880	171	312,325	143
2011	436,688	27,985	158,388	603	623,664	272,880	229	312,325	200
2012	216,012	88,873	970	970	312,617	272,880	115	312,325	100

Source: SEFSC ACL Data (July 2013). Note: 2012 data may be incomplete.

Given the increasing trend in annual commercial gray triggerfish landings (**Table 4.3.2**), an analysis forecasting 2014 catches was conducted using a Seasonal Autoregressive Integrated Moving Average (SARIMA) Model (**Figure 4.3.1**). The best-fitting model explained 85% of the variability in catch rate, and predicted a slightly increasing catch rate that would require a quota closure in July under current regulations in **Alternative 1** (**No Action**) (**Figure 4.3.1** and **Table 4.3.3**). If the quota is 312,325 lbs ww, a commercial closure would be expected in August 2014.

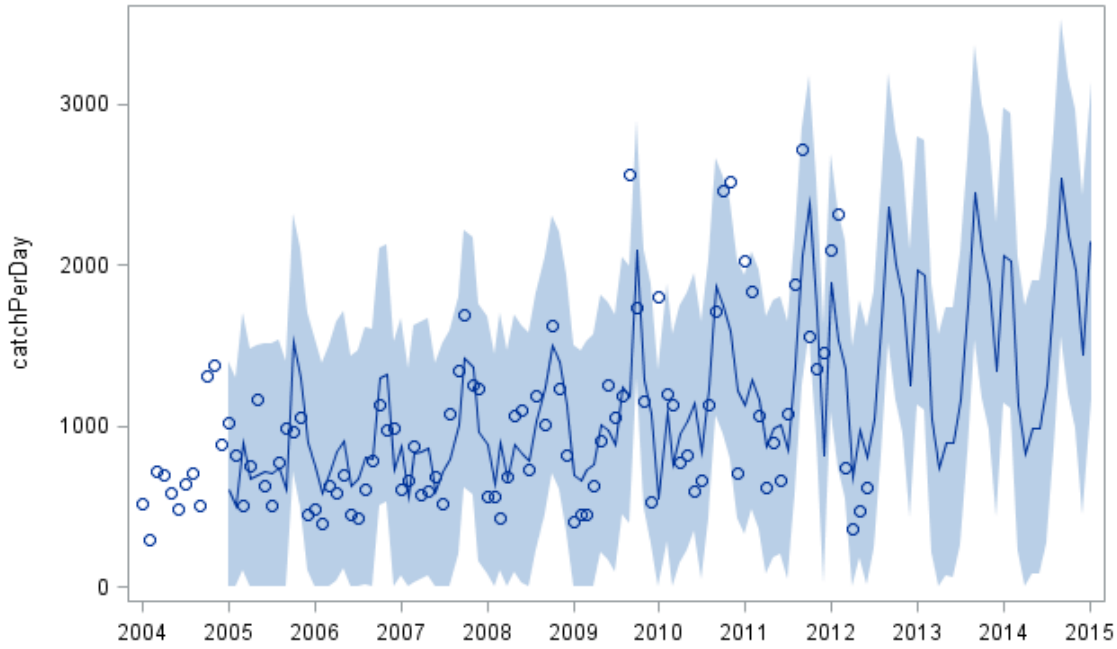

Figure 4.3.1. Predicted catch rates (blue line) relative to observed catch rates (open circles), forecast through the 2014 fishing season using the SARIMA Model. Note relatively lower catch rates during March-July of each year.

Table 4.3.3. Projected quota closure dates for the 2014 fishing season for the commercial sector of gray triggerfish under Alternative 1 (No Action) for the current commercial ACL of 272,880 lbs ww, and commercial ACLs derived from Sub-alternative 4a (Preferred)-4c under Action 2.

ACL (lbs ww)	Alternative	Mean	L95%	U95%
272,880	Current ACL	26-Jul	No Closure	21-Apr
312,325	**Action 2, Preferred Subalt 4a**	**18-Aug**	**No Closure**	**12-May**
334,634	Action 1, Subalt 4b	30-Aug	No Closure	24-May
223,089	Action 1, Subalt 4c	12-Jun	29-Nov	24-Mar

During 2007-2012, there was a slight increase in average length of gray triggerfish (**Table 4.3.4** and **Figure 4.3.2**).

Table 4.3.4. Average fork length of gray triggerfish for the South Atlantic commercial sector by year, 2007-2012.

Year	Average Fork Length (inches)	n
2007	15.07	1,882
2008	14.98	1,714
2009	14.73	1,845
2010	15.36	2,148
2011	15.42	2,680
2012	15.29	1,862

Source: SEFSC Trip Interview Program (TIP) data.

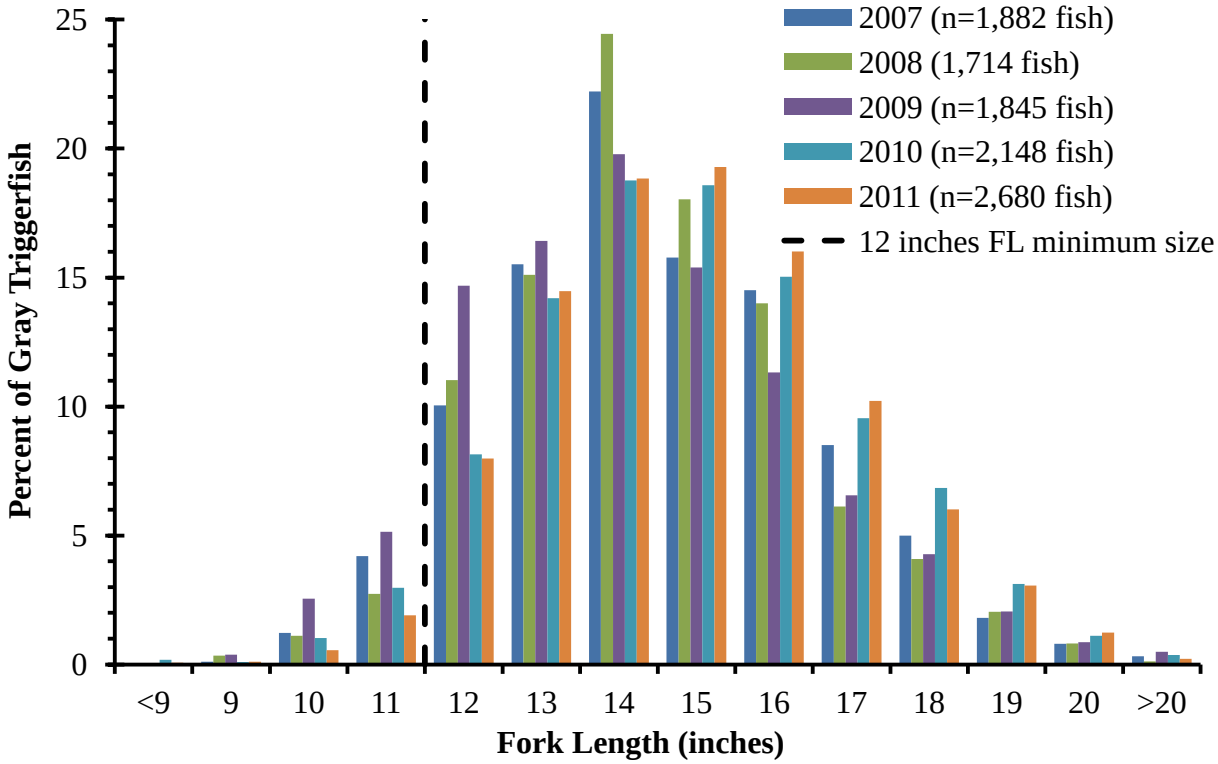

Figure 4.3.2. Distribution of gray triggerfish lengths by year for the commercial sector in the South Atlantic.

Alternative 2 would specify a minimum size limit for gray triggerfish of 12 inches FL in federal waters off east Florida. Currently the commercial and recreational minimum size limit for South Atlantic gray triggerfish is 12 inches TL in federal waters off east Florida and 12 inches FL in east Florida state waters. Under **Alternative 2**, commercial harvest of gray triggerfish in Florida could be reduced by 2.1% (± 2.0%) in 2014. On a monthly basis, this might reduce commercial landings in Florida by up to 6% (**Table 4.3.5**). On average, during 2007-2012, commercial landings in Florida accounted for 19% (± 5%) of the annual gray triggerfish commercial harvest in the South Atlantic (**Table 4.3.2**). As this reduction is only 2.1% of 19% of the total harvest, it is relatively minor (0.4% reduction), and only adds around one fishing day to the season (**Tables 4.3.3** and **4.3.6**).

Table 4.3.5. Mean percent commercial gray triggerfish landings in Florida between 10.46 – 12 inches FL, during 2007-2012.

MONTH	MEAN (2007-2012)	SD	N
January	0%	1%	435
February	0%	0%	257
March	1%	1%	304
April	1%	1%	109
May	0%	1%	175
June	0%	0%	209
July	6%	7%	367
August	5%	6%	378
September	0%	1%	223
October	2%	6%	165
November	6%	14%	132
December	4%	5%	232

Table 4.3.6. Projected commercial gray triggerfish quota closure dates for the 2014 fishing season under Alternative 2 for the current commercial ACL of 272,880 lbs ww, and commercial ACLs derived from Sub-alternative 4a (Preferred)-4c under Action 2.

ACL (lbs ww)	Alternative	Mean	L95%	U95%
272,880	Current ACL	26-Jul	No Closure	21-Apr
312,325	**Action 2, Preferred Subalt 4a**	**19-Aug**	**No Closure**	**12-May**
334,634	Action 1, Subalt 4b	31-Aug	No Closure	24-May
223,089	Action 1, Subalt 4c	13-Jun	30-Nov	24-Mar

Currently there is no minimum size limit off North Carolina, South Carolina, and Georgia, which account for 81% of the gray triggerfish commercial landings (**Table 4.3.2**), and the minimum size limit for South Atlantic gray triggerfish is 12 inches TL (10.46 inches FL) in federal waters off east Florida and 12 inches FL in east Florida state waters. **Preferred Alternative 3** would specify a minimum size limit for gray triggerfish of 12 inches FL in federal waters off North Carolina, South Carolina, Georgia, and east Florida. Establishing a minimum size limit off Georgia, South Carolina, and North Carolina, and increasing the federal minimum size limit off Florida, would provide a slight reduction in harvest rates under (**Table 4.3.7**). These reductions would extend the gray triggerfish season by 2-5 days (**Tables 4.3.6** and **4.3.8**).

Table 4.3.7. Mean percent of commercial gray triggerfish landings less than 12 inches FL in the South Atlantic during 2007-2012.

MONTH	MEAN	SD
January	2%	2%
February	2%	1%
March	2%	1%
April	1%	1%
May	2%	1%
June	3%	1%
July	4%	4%
August	3%	3%
September	2%	1%
October	2%	3%
November	2%	3%
December	4%	1%

Table 4.3.8. Projected commercial gray triggerfish quota closure dates for the 2014 fishing season under Preferred Alternative 3 for the current commercial ACL of 272,880 lbs ww, and commercial ACLs derived from Sub-alternative 4a (Preferred)-4c under Action 2.

ACL (lbs ww)	Alternative	Mean	L95%	U95%
272,880	Current ACL	31-Jul	No Closure	23-Apr
312,325	**Action 2, Preferred Subalt 4a**	**22-Aug**	**No Closure**	**15-May**
334,634	Action 1, Subalt 4b	3-Sep	No Closure	27-May
223,089	Action 1, Subalt 4c	17-Jun	9-Dec	26-Mar

Alternative 4 would specify a minimum size limit for gray triggerfish of 14 inches FL in federal waters off North Carolina, South Carolina, Georgia, and east Florida, which is equal to the minimum size limit that is currently in place in state and federal waters of west Florida. Establishing a minimum size limit off Georgia, South Carolina, and North Carolina, and increasing the federal minimum size limit off Florida, would provide a slight reduction in harvest rates under **Alternative 4** (**Table 4.3.9**). These reductions would extend the gray triggerfish season by 25-36 days (**Tables 4.3.8** and **4.3.10**).

Table 4.3.9. Mean percent of commercial gray triggerfish landings less than 14 inches FL in the South Atlantic during 2007-2012.

MONTH	MEAN	SD
January	14%	3%
February	12%	5%
March	15%	5%
April	15%	5%
May	19%	7%
June	25%	7%
July	26%	5%
August	25%	7%
September	22%	11%
October	14%	11%
November	11%	7%
December	19%	4%

Table 4.3.10. Projected commercial gray triggerfish quota closure dates for the 2014 fishing season under Alternative 4 for the current commercial ACL of 272,880 lbs ww, and commercial ACLs derived from Sub-alternative 4a (Preferred)-4c under Action 2.

ACL (lbs ww)	Alternative	Mean	L95%	U95%
272,880	Current ACL	31-Aug	No Closure	16-May
312,325	**Action 2, Preferred Subalt 4a**	**20-Sep**	**No Closure**	**11-Jun**
334,634	Action 1, Subalt 4b	1-Oct	No Closure	27-Jun
223,089	Action 1, Subalt 4c	23-Jul	No Closure	13-Apr

There would be little difference in the biological benefits of **Alternatives 1 (No Action) – 4,** since the establishment of a minimum size limit would not be very restrictive on the commercial harvest of gray triggerfish. A minimum size limit of 12 inch FL under **Preferred Alternative 3** would provide slightly greater spawning opportunities for gray triggerfish. A minimum size limit of 14 inches FL under **Alternative 4** would provide the greatest spawning opportunities of the alternatives considered. Therefore, biological benefits would be greatest for **Alternative 4**, followed by **Preferred Alternative 3,** then **Alternative 2** and **Alternative 1** (**No Action**) for the commercial sector.

Recreational Sector

A recreational ACL of 367,303 lbs ww was implemented for the South Atlantic gray triggerfish recreational sector in the Comprehensive ACL Amendment on April 16, 2012 (SAFMC 2011c). However, this ACL was based on Marine Recreational Fisheries Statistics Survey (MRFSS) data, and the recreational survey method was recently modified and changed to the Marine Recreational Information Program (MRIP). Effective July 17, 2013, Regulatory Amendment 13 (SAFMC 2013b) revised the gray triggerfish recreational ACL using MRIP data, which resulted in an ACL of 353,638 lbs ww. The ABC

for gray triggerfish specified under **Preferred Sub-alternative 4a** in **Action 2** would result in a recreational ACL 404,675 lbs ww. **Table 4.3.11** provides historic recreational landings from 2008 to 2012 and compares them to the MRIP ACL. Historic landings would have exceeded the ACL; however, the most recent landings (2012) did not exceed the ACL.

Table 4.3.11. Annual South Atlantic gray triggerfish recreational landings (MRIP and headboat by area, 2008-2012) compared to the current recreational ACL (ACL 1) and the proposed recreational ACL based on the preferred alternative in Action 2 (ACL 2).

Year	NC, SC, and GA Federal Landings	NC, SC, and GA State Landings	Florida Federal	Florida State	Total Landings	ACL 1	ACL 1%	ACL 2	ACL 2%
2008	348,934	3,113	77,467	126,958	556,471	353,638	157	404,675	138
2009	243,331	17,569	68,415	198,495	527,809	353,638	149	404,675	130
2010	213,784	62,387	115,909	70,555	462,636	353,638	131	404,675	114
2011	144,715	10,241	120,575	80,795	356,327	353,638	101	404,675	88
2012	202,868	25,241	22,633	97,858	348,599	353,638	99	404,675	86

The average length of gray triggerfish increased from 2008 to 2012 (**Table 4.3.12** and **Figure 4.3.3**). Changes in the fish size overtime can influence the reduction of landings estimated from changes in the minimum size limit. To control for this impact only data from the previous three years (2010-2012) were used for size limit analysis. These are also the three most recent fishing years, which will most likely represent future landings.

Table 4.3.12. Average fork length of gray triggerfish for the South Atlantic recreational sector for each year, 2008-2012.

Year	Average Fork Length (inches)	n
2008	13.4	832
2009	13.5	1,055
2010	13.6	1,863
2011	13.8	1,487
2012	13.8	1490

Source: MRIP and headboat survey.

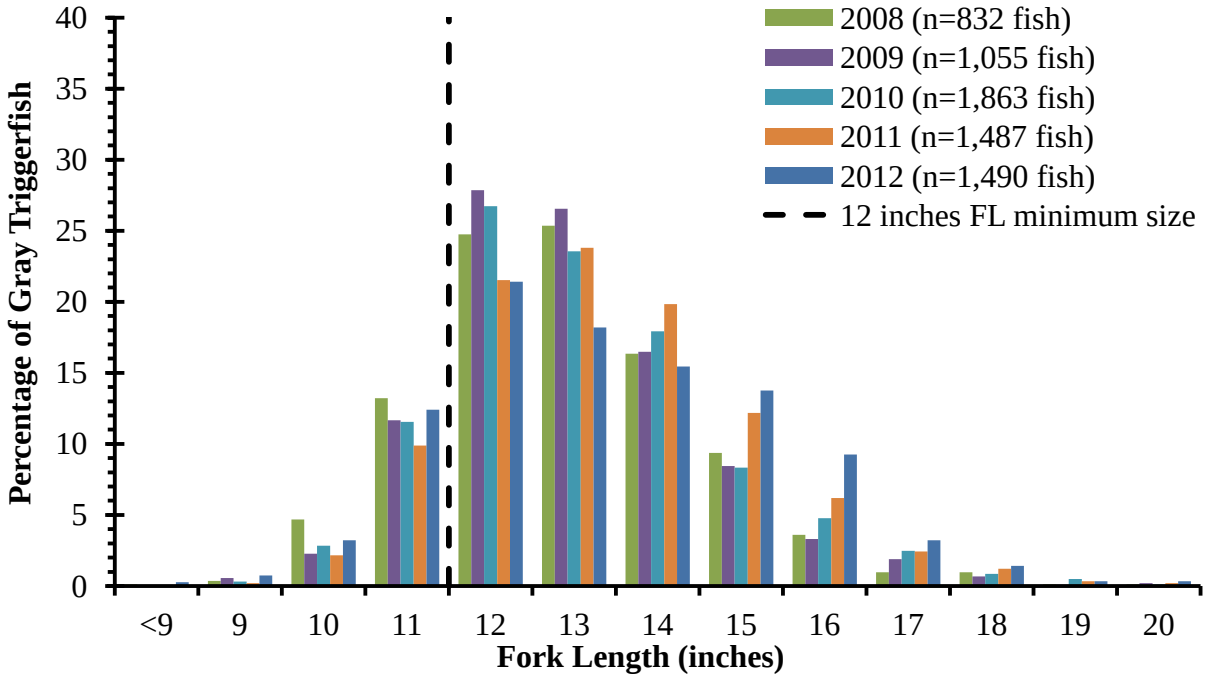

Figure 4.3.3. Distribution of South Atlantic gray triggerfish lengths by year from the recreational sector, 2008-2012. MRIP and headboat data are included.

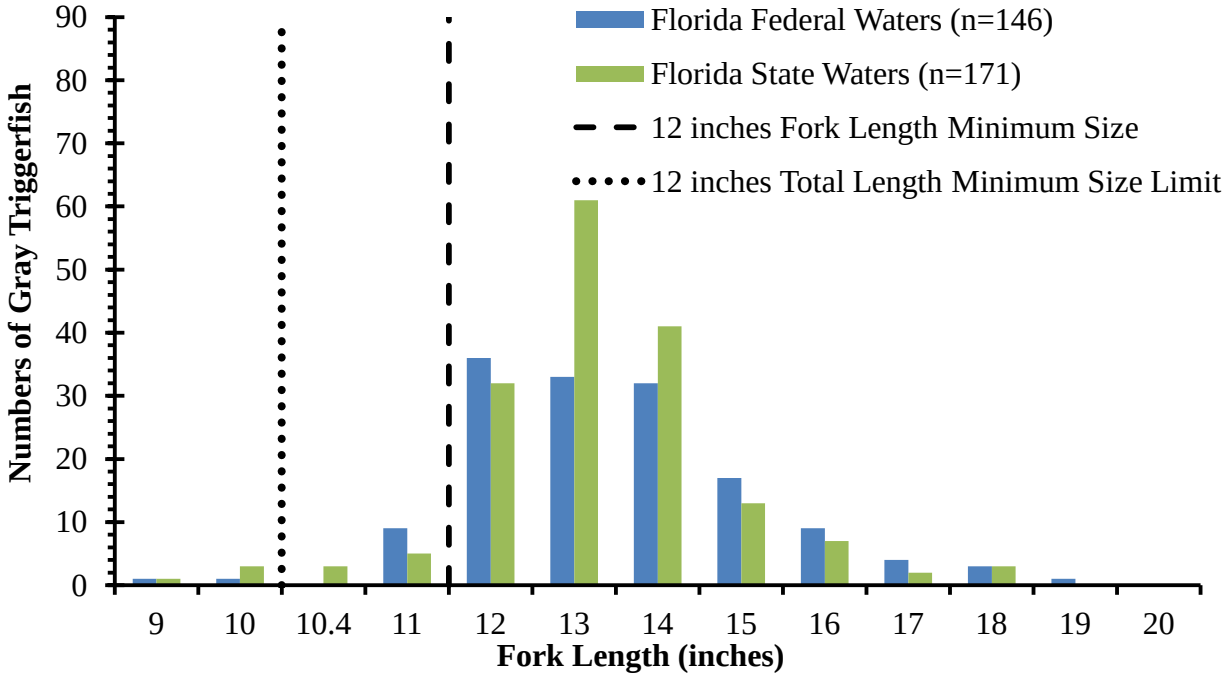

Figure 4.3.4. Distribution of Florida east coast gray triggerfish lengths from the recreational sector separated by catches in federal and state waters, 2010-2012.
Data from MRIP intercepts. Headboat length data were not included since there is no information on location of catch in federal and state waters.

Table 4.3.13. Percent reduction in the South Atlantic recreational gray triggerfish landings for increasing the minimum size in Florida waters from 12 inches total length (10.46 inches FL) to 12 inches fork length (Alternative 2).

MRIP		
	Charter	Private
12 inches FL	5.3	1.5
Headboat		
Month	Charter	
January	6.3	
February	13.7	
March	7.5	
April	10.1	
May	10.9	
June	11.4	
July	10.7	
August	6.3	
September	4.5	
October	5.2	
November	3	
December	4.5	

Note: Reductions were calculated in terms of gray triggerfish weight (lbs) following SERO-LAPP-2012-02. The percent reductions for MRIP were calculated for federal waters. Headboat length data did not have jurisdictional information on the catch location (federal or state waters) so the percent reductions reflect both federal and state waters combined. Monthly percent reductions were calculated for headboat data since monthly samples sizes were adequate.

Alternative 2 would change the minimum size limit in federal waters of the east coast of Florida from 12 inches TL to 12 inches FL. This would be an increase from 10.46 inches FL to 12 inches FL. The percent reduction in harvest from increasing the minimum size to 12 inches FL in east Florida federal waters is shown in **Table 4.3.13.** To reflect the management change in **Alternative 2**, the percent reductions in harvest were only applied to South Atlantic gray triggerfish landings from east Florida in federal waters. Then the reduced Florida federal landings were added to Florida state water landings, and the North Carolina, South Carolina, and Georgia gray triggerfish landings. This calculation was done for the annual landings from 2010 to 2012, and **Table 4.3.14** provides the results of the overall reduction of landings.

Table 4.3.14. Percent reduction in annual South Atlantic recreational sector gray triggerfish landings from increasing the minimum size in Florida federal waters from 12 inches TL (10.46 inches FL) to 12 inches FL.

Year	**% Reduction in Total Landings**
2010	0.82
2011	1.07
2012	1.06

Note: MRIP and headboat landings included.

Preferred Alternative 3 considers a minimum size limit of 12 inches FL for the federal waters of North Carolina, South Carolina, Georgia, and east Florida. Currently there is no minimum size limit off North Carolina, South Carolina, and Georgia. However, there is a minimum size limit in federal waters of east Florida, which would be increased from 12 inches TL (10.46 inches FL) to 12 inches FL. The percent reductions in harvest by mode from increasing the minimum size to 12 inches FL (**Preferred Alternative 3**) are shown in **Table 4.3.15**.

Table 4.3.15. Percent reductions in the South Atlantic recreational sector gray triggerfish landings for implementing a minimum size limit off North Carolina, South Carolina, and Georgia waters to 12 inches FL (Alternative 3).

	MRIP		Headboat
Mode	**Charter**	**Private**	**Charter**
12 inches FL	6.7	1.6	8

Note: Harvest reductions were calculated in terms of gray triggerfish weight (lbs ww). The percent reductions for MRIP were calculated for federal waters. Headboat length data did not have jurisdictional information on the catch location (federal or state waters). Thus, the percent reductions reflect both federal and state waters combined.

To reflect the proposed management change in **Preferred Alternative 3**, the percent harvest reductions from **Alternative 2** were applied to federal waters on the east coast of Florida, and the percent harvest reductions generated for North Carolina, South Carolina, and Georgia were applied to the federal waters of these three states. The reduced east Florida federal landings and reduced North Carolina, South Carolina, and Georgia federal landings were then added to the North Carolina, South Carolina, Georgia, and east Florida state water landings. This calculation was done for the annual landings from 2010 to 2012, and **Table 4.3.16** provides the results of the overall reduction of landings.

Table 4.3.16. Percent reduction in annual South Atlantic recreational sector gray triggerfish landings from implementing a 12 inch FL size limit in North Carolina, South Carolina, and Georgia federal waters and increasing the minimum size in Florida federal waters from 12 inches TL (10.46 inches FL) to 12 inches FL.

Year	% Reduction in Total Landings
2010	3.5
2011	3.7
2012	4.8

Note: MRIP and headboat landings included.

Alternative 4 proposes a minimum size limit of 14 inches FL for the federal waters of North Carolina, South Carolina, Georgia, and east Florida. Currently there is no minimum size limit off North Carolina, South Carolina, and Georgia. However, there is a minimum size limit in federal waters of east Florida, which would be increased from 12 inches TL to 14 inches FL. Furthermore, a 14 inch FL minimum size is in place in state and federal waters of west Florida. **Tables 4.3.17** and **4.3.18** provide percent harvest reduction results.

Table 4.3.17. Percent reduction in harvest generated from MRIP data for the South Atlantic recreational sector gray triggerfish recreational fishery for implementing a 14 inches FL minimum size limit in federal waters of North Carolina, South Carolina, Georgia, and east Florida (Alternative 4).

Location	Mode	
	Charter	Private
Federal FL Waters	41.8	36.8
Federal NC, SC, and GA Waters	37.1	21.4

Note: Percent reductions were calculated in terms of gray triggerfish weight (lbs).

Table 4.3.18. Percent reduction in harvest generated from headboat data for the South Atlantic recreational sector gray triggerfish recreational fishery for implementing a 14 inches FL minimum size limit in North Carolina, South Carolina, Georgia, and east Florida.

	Month	Charter
FL Waters	January	47.6
	February	50.4
	March	52.4
	April	48.9
	May	45.5
	June	54.7
	July	51.9
	August	46.6
	September	36.5
	October	38.1
	November	38.9
	December	38.1
NC, SC, and GA Waters	45.1	

Note: Percent reductions were calculated in terms of gray triggerfish weight (lbs ww). Headboat length data did not have jurisdictional information on the catch location (federal or state waters) so the percent reductions reflect both federal and state waters combined.

To reflect the management change in **Alternative 4**, the percent reductions in harvest were applied to federal waters landings on the east coast of Florida and the percent reductions in harvest generated for North Carolina, South Carolina, and Georgia were applied to the federal waters landings of those three states. The reduced east Florida federal landings and reduced North Carolina, South Carolina, and Georgia federal landings were then added to the North Carolina, South Carolina, Georgia, and east Florida state water landings. This calculation was done for the annual landings from 2010 to 2012, and **Table 4.3.19** provides the results of the overall reduction of landings.

Table 4.3.19. Percent reduction in annual South Atlantic recreational sector gray triggerfish landings from implementing a 14 inch FL size limit in North Carolina, South Carolina, and Georgia federal waters and increasing the minimum size in Florida federal waters from 12 inches TL (10.46 inches FL) to 12 inches FL.

Year	% Reduction in Total Landings
2010	22.3
2011	21.9
2012	28.0

Note: MRIP and headboat landings included.

In general, biological benefits would be greater for alternatives that resulted in a greater reduction in landings. Similar to the commercial sector, there would be little difference in the biological benefits of **Alternatives 1 (No Action) – 3,** since the establishment of a 12-inch FL minimum size limit would not be very restrictive on the recreational harvest of gray triggerfish. **Alternative 4**, which would be expected to reduce recreational landings by over 20% would be expected to have the greatest biological benefit for gray triggerfish. Furthermore, larger size limits would be expected to provide greater spawning opportunities for gray triggerfish since survival of released fish is very high. Hence, biological benefits would be highest for **Alternative 4**, followed by **Preferred Alternative 3**, **Alternative 2,** and **Alternative 1** (**No Action**) for the recreational sector. In terms of discard mortality, the absence of a minimum size limit would seem most biologically beneficial. However, as mentioned previously, gray triggerfish experience low discard mortality (12.5%) and the latter was taken into account when calculating percent reductions in harvest as a result of the proposed changes. Therefore, discard mortality is not expected to result in negative biological impacts.

Each alternative, regardless of the one selected, is unlikely to have adverse effects on listed *Acropora* species, large whales, or any DPS of Atlantic sturgeon. Previous ESA consultations determined the hook-and-line sector of the snapper-grouper fishery was not likely to adversely affect *Acropora* species, large whales, or any DPS of Atlantic sturgeon. For the species that may interact with the fishery (i.e., sea turtles and smalltooth sawfish), there is likely to be no additional biological benefit from **Alternative 1 (No Action)** because it would perpetuate the existing level of risk for interactions between these ESA-listed species and the fishery. For both sectors, the biological benefits to sea turtles and smalltooth sawfish are likely to be greatest from **Alternative 4**. This alternative is the most restrictive and if it ultimately reduces the overall effort in the fishery, the likelihood of interaction between these species and the fishery as a whole may decrease. However, if the alternative simply displaces effort and does not reduce it, **Alternative 4** may have very little biological benefit for these species. Following the same rationale, **Alternative 2** and **Preferred Alternative 3** are likely to be similar in their overall benefit to the species, which is likely to be less biologically beneficial than **Alternative 4**.

Economic Effects

The minimum size limit for gray triggerfish is 12-inches TL in the Atlantic EEZ off east Florida; there are no size limits for gray triggerfish harvested elsewhere in federal waters of the South Atlantic. **Alternative 1 (No Action)** would keep the current minimum size limit and would have no impact on landings and associated economic benefits beyond the baseline; however, it would result in lower long-run economic benefits from exploitation of the stock. Moreover, the present regulatory definition of TL is the straight line from the top of the snout to the tip of the tail (caudal fin), excluding any caudal filament,

while the fish is lying on its side, and as such, for gray triggerfish that TL measurement is essentially a fork length (FL) measurement, which may confuse anglers.

Alternative 2 would establish a 12-inch FL limit in the EEZ off Florida's East Coast, which would be compatible with Florida's East Coast minimum size limit (Florida Administrative Code 68B 14.0035); however, it would continue to allow smaller fish to be harvested in federal waters off North Carolina, South Carolina, and Georgia. Approximately 80% of gray triggerfish are landed in these three states. Consequently, **Alternative 2** would have less of a long-run beneficial economic impact than **Preferred Alternative 3**, which would establish the 12-inch FL limit in the EEZ off North Carolina, South Carolina, Georgia, and Florida's East Coast. **Alternative 4** would establish a larger minimum size limit (14-inch FL limit in the EEZ from off North Carolina through Florida's east coast). **Alternative 4** would have the largest short-run adverse economic impact on fishermen who harvest gray triggerfish, followed, in turn, by **Preferred Alternative 3** and **Alternative 2**. **Preferred Alternative 3** would have a larger long-run beneficial economic impact than **Alternative 2** and **Alternative 1 (No Action)**. Estimates of the short-run annual adverse impacts on commercial fishermen and anglers are provided below.

Alternative 4 is estimated to reduce annual commercial landings (lbs ww) of gray triggerfish from up to 16% to 20% of the commercial ACL and similarly dockside revenues by the same percentages. Because **Sub-alternatives 4a (Preferred)**, **4b** and **4c** of **Action 2** would establish a commercial ACL different than the status quo (**Alternative 1** of that action), the impacts of **Alternative 4** vary with the commercial ACL chosen. **Preferred Alternative 3** of **Action 3** in combination with **Preferred Alternative 4a** of **Action 2** would reduce annual commercial landings of gray triggerfish from as much as 2,561 – 12,555 lbs ww and annual dockside revenues from $99,944 to $124,930 (Table 4.3.20). Those ranges assume commercial fishermen do not act to mitigate for losses of annual landings, such as increasing the length and/or number of trips. Given **Preferred Sub-alternative 4a** of **Action 2**, **Alternative 4** would have the largest adverse economic impact in the short-run, followed in turn by **Preferred Alternative 3**, **Alternative 2** and **Alternative 1 (No Action)**.

Table 4.3.20. Comparison of maximum decreases of annual commercial landings (lbs ww) and dockside revenues from gray triggerfish landings based on size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	ACL (lbs ww)	Maximum reduction of annual commercial landings (lbs ww)			
		Alt. 1	Alt. 2	Pref. Alt. 3	Alt. 4
Alt. 1	272,880	0	55 to 2,238	**2,238 to 10,970**	43,661 to 54,576
Pref. Sub-alt. 4a	**312,325**	**0**	**62 to 2,561**	**2,561 to 12,555**	**49,972 to 62,465**
Sub-alt. 4b	334,634	0	67 to 2,744	**2,744 to 13,452**	53,541 to 66,927
Sub-alt. 4c	223,089	0	45 to 1,829	**1,829 to 8,968**	35,694 to 44,618
Action 2	**Dockside revenue (2012 $)**	**Maximum reduction of annual dockside revenue (2012 $)**			
		Alt. 1	**Alt. 2**	**Pref. Alt. 3**	**Alt. 4**
Alt. 1	$545,760	$0	$110 to $4,476	**$4,476 to $21,940**	$87,322 to $109,152
Pref. Sub-alt. 4a	**$624,650**	**$0**	**$124 to $5,122**	**$5,122 to $25,110**	**$99,944 to $124,930**
Sub-alt. 4b	$669,268	$0	$134 to $5,488	**$5,488 to $26,904**	$107,082 to $133,854
Sub-alt. 4c	$446,178	$0	$90 to $3,658	**$3,658 to $17,936**	$71,388 to $89,236

All of the reductions in landings and dockside revenue caused by **Alternative 2** would be incurred by Florida's commercial fishermen (**Tables 4.3.21** and **4.3.22**). However, the largest short-run adverse impacts would be incurred by commercial fishermen north of Florida. For example, **Preferred Alternative 3** would cost fishermen from North Carolina, South Carolina and Georgia, combined, $79,956 to $99,944 in losses of dockside revenue, while those from Florida would lose $19,988 to $24,986.

Table 4.3.21. Comparison of maximum decreases of annual commercial landings (lbs ww) of gray triggerfish by size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	Reduction of annual commercial landings (lbs ww)						
	Alt. 1	Alt. 2		Pref. Alt. 3		Alt. 4	
	FL, NC, SC, GA	FL	NC, SC, GA	FL	NC, SC, GA	FL	NC, SC, GA
Alt. 1	0	55 to 2,238	0	**55 to 2,238**	**2,183 to 8,732**	8,732 to 10,915	34,929 to 43,661
Pref. Sub-alt. 4a	**0**	**62 to 2,561**	**0**	**62 to 2,561**	**2,499 to 9,994**	**9,999 to 12,493**	**39,978 to 49,972**
Sub-alt. 4b	0	67 to 2,744	0	**67 to 2,744**	**2,677 to 10,708**	10,708 to 13,385	42,833 to 53,541
Sub-alt. 4c	0	45 to 1,829	0	**45 to 1,829**	**1,785 to 7,139**	7,139 to 8,934	28,555 to 35,694

Table 4.3.22. Comparison of maximum decreases of annual dockside revenues from gray triggerfish by size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	Reduction of annual dockside revenues (2012 $)						
	Alt. 1	Alt. 2		Pref. Alt. 3		Alt. 4	
	NC, SC, GA, FL	FL	NC, SC, GA	FL	NC, SC, GA	FL	NC, SC, GA
Alt. 1	0	110 to 4,476	0	**110 to 4,476**	**4,276 to 17,464**	17,464 to 21,830	69,858 to 87,322
Pref. Sub-alt. 4a	**0**	**124 to 5,122**	**0**	**124 to 5,122**	**4,998 to 19,988**	**19,988 to 24,986**	**79,956 to 99,944**
Sub-alt. 4b	0	134 to 5,488	0	**134 to 5,488**	**5,354 to 21,416**	21,416 to 26,770	85,666 to 107,082
Sub-alt. 4c	0	90 to 3,658	0	**90 to 3,658**	**3,570 to 14,278**	14,278 to 17,868	57,110 to 71,388

Preferred Alternative 3 of **Action 3** paired with **Preferred Sub-alternative 4a** of **Action 2** would cause short-run losses of annual recreational landings up to 8,253 to 12,783 lbs ww (Table 4.3.23). Regardless of which alternative for **Action 2** is selected, **Alternative 4** (of **Action 3**) would have the largest adverse economic impact, followed in turn by **Preferred Alternative 3**, **Alternative 2**, and **Alternative 1 (No Action)**. Presently, there is insufficient information to estimate the dollar value of the reduced recreational landings.

Table 4.3.23. Comparison of reductions of annual recreational landings (lbs ww) by size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	ACL	Maximum reduction of annual recreational landings (lbs ww)			
		Alt. 1	Alt. 2	Pref. Alt. 3	Alt. 4
Alt. 1	353,607	0	280 to 1,665	**7,211 to 11,170**	76,648 to 99,010
Pref. Sub-alt. 4a	**404,675**	**0**	**321 to 1,905**	**8,253 to 12,783**	**87,717 to 113,309**
Sub-alt. 4b	433,580	0	343 to 2,041	**8,841 to 13,696**	93,983 to 121,402
Sub-alt. 4c	289,054	0	229 to 1,361	**5,894 to 9,131**	62,655 to 80,935

The reductions of recreational landings would not be incurred equally across the four South Atlantic States. From 2008 through 2012, Florida's East Coast accounted for an average of 44% of the landings. Consequently, the split of maximum landings (recreational ACL) is so split in this analysis. Moreover, it is estimated that **Preferred Alternative 3** and **Alternative 2** would reduce Florida East Coast annual landings from 0.82% to 1.07%, while **Preferred Alternative 3** would reduce North Carolina, South Carolina and Georgia landings from 3.5% to 4.8%. **Alternative 4** is expected to reduce landings by 21.9% to 28% in both areas (Florida's East Coast and from North Carolina through Georgia). **Preferred Alternative 3** of **Action 3** paired with **Preferred Sub-alternative 4a** of **Action 2** would lower annual recreational landings in the short-run by as much as 321 to 1,905 lbs ww in Florida and 7,932 to 10,878 lbs ww in the other three states (**Table 4.3.24**).

Table 4.3.24. Comparison of reductions of annual recreational landings (lbs ww) in state areas by size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	Reduction of annual recreational landings (lbs ww)						
	Alt. 1	Alt. 2		Pref. Alt. 3		Alt. 4	
	NC, SC, GA, FL	FL	NC, SC, GA	FL	NC, SC, GA	FL	NC, SC, GA
Alt. 1	0	280 to 1,665	0	**280 to 1,665**	**6,931 to 9,505**	34,074 to 43,564	42,574 to 55,446
Pref. Sub-alt. 4a	**0**	**321 to 1,905**	**0**	**321 to 1,905**	**7,932 to 10,878**	**38,994 to 49,856**	**48,723 to 63,453**
Sub-alt. 4b	0	343 to 2,041	0	**343 to 2,041**	**8,498 to 11,655**	41,780 to 53,417	52,203 to 67,985
Sub-alt. 4c	0	229 to 1,361	0	**229 to 1,361**	**5,665 to 7,770**	27,853 to 35,611	34,802 to 45,324

Preferred Alternative 3 of **Action 3** paired with **Preferred Sub-alternative 4a** of **Action 2** would result in combined maximum short-run losses of annual commercial and recreational landings from 10,814 to 25,338 lbs ww (**Table 4.3.25**). Those short-run annual losses represent from approximately 1.5% to 3.5% of the total ACL for gray triggerfish (717,000 lbs ww) for **Preferred Sub-alternative 4a** of **Action 2**.

Table 4.3.25. Comparison of total losses of annual landings by size limit alternatives in Action 3 (Preferred Alternative 3 and Alternatives 1, 2 and 4), and the preferred alternative in Action 2.

Action 2	Maximum reduction of annual landings (lbs ww), all sectors			
	Alt. 1	Alt. 2	Pref. Alt. 3	Alt. 4
Alt. 1	0	335 to 3,903	**9,449 to 22,140**	120,309 to 153,586
Pref. Sub-alt. 4a	**0**	**383 to 4,466**	**10,814 to 25,338**	**137,689 to 175,774**
Sub-alt. 4b	0	410 to 4,785	**11,585 to 271,148**	147,524 to 188,329
Sub-alt. 4c	0	274 to 3,190	**7,723 to 18,099**	98,349 to 125,553

Social Effects

Gray triggerfish is an increasingly important commercial and recreational species, with growing effort and market demand associated with closures for other species. Gray triggerfish is an important part of the commercial sector of the snapper grouper fishery in the communities of Murrells Inlet, Little River, and Charleston in South Carolina; Mayport and St. Augustine in north Florida; and the North Carolina communities of Winnabow, Beaufort, Morehead City, Shallotte, and Sneads Ferry (**Figure 3.3.5**). Although commercial fishermen in these communities likely do not depend on access to gray triggerfish to maintain their operations, changes that affect the commercial sector could affect crew and vessel owners, and associated businesses in the communities. Gray triggerfish is also commonly seen on menus at restaurants in coastal communities. Changes that restrict or modify access for the commercial sector could also affect availability for restaurants, which is associated with tourism and local economies in many coastal areas. Additionally, gray triggerfish has grown in popularity for the recreational sector, and is an important target species in private and for-hire trips for many recreational anglers, including coastal residents and tourists visiting a coastal area. **Table 3.3.1** shows important recreational fishing communities in the South Atlantic that could be affected by changes in gray triggerfish management measures.

Changing the minimum size limit under **Alternative 2** and **Preferred Alternative 3** to be consistent with the east Florida minimum size limit requirements in state waters would be beneficial to commercial and recreational fishermen by removing inconsistency between the state and federal requirements that would continue under **Alternative 1 (No Action)**. Establishing a minimum size limit for federal waters of North Carolina, South Carolina, and Georgia (**Preferred Alternative 3** and **Alternative 4**) would make the federal regulations consistent for the EEZ of all the South Atlantic states. Further, a 14 inch FL minimum size limit specified in **Alternative 4** would allow for consistent regulations in the Gulf of Mexico and South Atlantic, which is particularly troublesome for fishermen in the Florida Keys. However, **Preferred Alternative 3** and **Alternative 4** could have some negative effects on recreational and commercial fishermen harvesting gray triggerfish in the EEZ of states that currently do not have size limits by limiting the number of fish that can be kept. Because **Alternative 1 (No Action)** and **Alternative 2** would not implement minimum size limits for the states without a size limit, there would be no expected effects on commercial or recreational fishermen targeting gray triggerfish in North Carolina, South Carolina, and Georgia.

Some social effects of minimum size limits would be associated with the positive and negative biological effects of minimum size limits on the gray triggerfish stock (**Section 4.2.1**). Positive effects of allowing only fish of a certain size that are caught in the South Atlantic EEZ to be landed (**Preferred Alternative 3** and **Alternative 4**) could help maintain sustainability of harvest and the health of the stock, which would be beneficial to recreational and commercial fishermen in the long term.
Negative effects of potential increase in discard mortality due to a newly established size limit in North Carolina, South Carolina, and Georgia under **Preferred Alternative 3** and **Alternative 4**, compared to allowing all fish to be landed in those states under **Alternative 1 (No Action)** and **Alternative 2**, could affect the stock and in turn, commercial and recreational fishing opportunities. However, survival of released gray triggerfish is estimated to be very high (87.5%); thus, larger minimum size limits would not be expected to negatively impact the stock. Under **Preferred Alternative 3** and **Alternative 4**, the commercial season would only be extended by 2-5 days (**Tables 4-14** and **4-21**).

Implementation of a minimum size limit for the EEZ off North Carolina, South Carolina, and Georgia would likely have more impact on recreational fishermen and for-hire businesses targeting gray triggerfish. Under **Preferred Alternative 3**, a small reduction in recreational landings is expected if a minimum size is required for all states (**Table 4.3.22**). However, under **Alternative 4**, recreational landings would have been reduced by 22-28% if a 14-inch FL minimum size requirement was implemented (**Table 4.3.19**). Particularly for recreational fishermen targeting gray triggerfish in Florida, the increase in the minimum size limit under **Alternative 4** could change fishing behavior and opportunities to keep gray triggerfish for recreational fishermen. With the growing popularity and economic importance of gray triggerfish, changes in management measures could have considerable impacts on the stock that would in turn impact fishing opportunities in the future.

Action 4. Establish a commercial split season for gray triggerfish

Alternative 1 (No Action). The commercial fishing year for gray triggerfish is the calendar year. The commercial ACL is allocated for the entire year.

Alternative 2. Allocate the directed commercial gray triggerfish ACL into two quotas: 50% to the period January 1 through June 30 and 50% to the period July 1 through December 31. Any remaining ~~ACL~~ quota from season 1 would transfer to season 2. Any remaining ~~ACL~~ quota from season 2 would not be carried forward.

Alternative 3. Allocate the directed commercial gray triggerfish ACL into two quotas; 40% to the period January 1 through June 30 and 60% to the period July 1 through December 31. Any remaining quota from season 1 would transfer to season 2. Any remaining quota from season 2 would not be carried forward.

NOTE: There is an issue with the wording in Alternatives 2 and 3. If we split the ACL into two ACLs then we cannot transfer from one season to another. Vermilion snapper has two seasonal quotas, not ACLs. We need to do the same here. We can transfer quotas; we cannot transfer ACLs. Edits to alternatives were suggested by one IPT member.

COMMITTEE ACTION: Approve recommended edits to Alternatives 2 and 3 under Action 4.
OPTION 1. APPROVE THE SUGGESTED EDITS TO ALTERNATIVES 2 AND 3 UNDER ACTION 4.
OPTION 2. OTHERS?

Biological Effects

Action 4 would divide the commercial fishing season for gray triggerfish into two time periods. The purpose of Action 4 would be to provide opportunities to fish for gray triggerfish throughout South Atlantic and throughout the calendar year. With the specification of an ACL for gray triggerfish through the Comprehensive ACL Amendment in 2012 (SAFMC 2011c), and Regulatory Amendment 13 in 2013 (SAFMC 2013b), in-season closures have taken place when the ACLs have been met. In 2012, when the commercial ACL was 305,262 lbs ww, commercial harvest of gray triggerfish closed on September 11, 2012, and reopened for a week in December. In 2013, the ACL was decreased to 272,880 lbs ww, and commercial harvest for gray triggerfish was closed on July 7, and reopened from October 18 to November 14. Based on **Preferred Sub-alternative 4a** in **Action 2**, the commercial ACL would be 312,325 lbs ww.

Alternative 1 (No Action) would maintain the current 12-month time period for harvest of the commercial ACL. **Table 4.4.1** shows that based on data from 2008-2012, the expected dates the new 272,880 lb ww ACL would be met range from August 13 to October 30.

Table 4.4.1. Expected dates the gray triggerfish ACL of 272,880 lb ww and 312,325 lbs ww would have been met during 2009-2012 under Alternative 1 (No Action).

Year	272,880	312,325
2008	10/30	12/3
2009	10/1	10/25
2010	9/15	10/6
2011	8/13	9/3
2012	8/23	9/16

Alternatives 2 and **3** would allocate the directed commercial gray triggerfish ACL into seasonal quotas. By dividing the commercial ACL into two six-month fishing quotas, fishermen would be given the opportunity to fish for gray triggerfish at the beginning of the year, and during the summer. The divided commercial quota would provide fishermen in the northern and southern areas of the South Atlantic a chance to fish for gray triggerfish when weather conditions are favorable in their respective areas.

Alternative 2 would allocate 50% of the commercial gray triggerfish ACL to January 1 through June 30, and 50% to July 1 through December 31. As a result, the current commercial ACL of 272,880 lb ww or proposed commercial ACL of 312,325 lbs ww would be divided into two seasonal quotas of 136,440 lbs ww, and 156,162 lbs ww, respectively. Any remaining quota from season 1 would transfer to season 2 but any remaining ACL from season 2 would not be carried forward. If the seasonal quotas were 136,440 lbs ww, the expected dates that a commercial closure would occur for gray triggerfish would be expected to be between March and April during season 1. The 136,440 lbs ww quota for January-June would not have been met in 2008 or 2009. During the second season, the 136,440 lbs ww quota would likely be met during September or October. If the seasonal quotas were 156,162 lbs ww, the expected dates that a commercial closure would occur for gray triggerfish would be expected to be between March and May during season 1. The 156,162 lbs ww quota for January-June would not have been met in 2008 or 2009. During the second season, the 156,162 lbs ww quota would likely be met during October in most years.

Table 4.4.2. Expected dates the gray triggerfish semi-annual quotas would have been met during 2009-2012 for January-June and July-December split seasons, as proposed under Alternative 2, based on current commercial ACL of 272,880 lbs ww, and proposed ACL of 312,325 lbs ww from Preferred Sub-alternative 4a in Action 2.

	Semi annual quota =136,440 lbs ww		Semi-annual quota =156,162 lbs ww	
Year	Jan-June	July-Dec	Jan-June	July-Dec
2008	Not met*	10/30	Not met*	12/3
2009	Not met*	10/1	Not met*	10/25
2010	4/16	10/12	5/10	10/19
2011	3/21	9/20	4/14	9/28
2012**	3/6	10/7	3/31	10/18

* Unused quota from January-June would roll over to July-December.
** Landings during September-December 2012 are assumed to be similar to those of 2008-2011.

An examination of landings during 2009-2011 reveals that 40% of the commercial landings were during January-June, and 60% were during July-December. **Alternative 3** would allocate the seasonal quotas of gray triggerfish according to the monthly distribution of landings shown in **Table 4.4.3** where 40% of the commercial gray triggerfish ACL would go to January 1 through June 30, and 60% to July 1 through December 31. As a result, the current commercial ACL of 272,880 lb ww would be divided into two seasonal quotas of 109,152 lbs ww and 163,728 lbs ww. The proposed commercial ACL of 312,325 lbs ww would be divided into two seasonal quotas of 124,930 lbs ww, and 187,395 lbs ww. Any remaining quota from season 1 would transfer to season 2 but any remaining quota from season 2 would not be carried forward.

If the season 1 quota were 109,152 lbs ww, the expected dates that a commercial closure would occur for gray triggerfish would be in February based on 2011 and 2012 landings. With the higher season 1 quota of 124,930 lbs ww derived from **Preferred Sub-alternative 4a** in **Action 2**, a commercial closure could be expected in late February to April. If the season 2 quota were 163,728 lbs ww, the expected dates that a commercial closure would occur for gray triggerfish would be in October. With the higher season 2 quota of 124,930 lbs ww derived from **Preferred Sub-alternative 4a** in **Action 2**, a commercial closure could be expected in November.

Table 4.4.3. Percentage of commercial gray triggerfish landings by month during 2008-2011.

Month	Percent
January	9%
February	7%
March	6%
April	5%
May	7%
June	6%
July	6%
August	10%
September	13%
October	14%
November	11%
December	6%

Source: SEFSC Accumulative Landings System

Table 4.4.4. Expected dates the gray triggerfish semi-annual quotas would have been met during 2009-2012 for January-June and July-December split seasons, as proposed under Alternative 3, based on current commercial ACL of 272,880 lbs ww, and proposed ACL of 312,325 lbs ww from Preferred Sub-alternative 4a in Action 2.

	Current Commercial ACL=272,880 lbs ww		Proposed Commercial ACL= 312,325 lbs ww	
	109,152	163,728	124,930	187,395
Year	Jan-June	July-Dec	Jan-June	July-Dec
2008	6/8	11/19	6/22	12/13
2009	6/19	10/10	Not Met*	10/25
2010	3/18	10/23	4/1	11/2
2011	2/25	10/22	4/10	11/17
2012**	2/19	10/23	2/25	11/5

* Unused quota from January-June would rollover to July-December.
** Landings during September-December 2012 are assumed to be similar to those of 2008-2011.

The biological consequences for gray triggerfish of a split season under **Alternatives 2** or **3** are likely to be neutral since overall harvest would be limited to the commercial sector ACL and split-season quotas, and AMs would be triggered if the quotas were exceeded. Dividing the ACL into two time periods could result in the gray triggerfish being open for a short period of time, and possibly encourage derby conditions to a greater extent than **Alternative 1 (No Action)**. Derby conditions would be expected to be more pronounced in season 2 under **Alternative 2**, and in season 1 under **Alternative 3**. Discards of greater triggerfish would be expected after quotas are met under **Alternatives 2** and **3** due to fishermen targeting co-occurring species. However, the magnitude of discards would be expected to be similar under the two alternatives. Furthermore, survival of discarded gray triggerfish is estimated to be very high (~88%). Thus, the stock would not be expected to be negatively affected by alternatives that might result in an increase in regulatory discards. **Alternative 2** and **3** would establish fishing seasons that have opening and closing dates similar to vermilion snapper. Since gray triggerfish and vermilion snapper are co-occurring species that are caught together, **Alternatives 2** and **3** could reduce bycatch of both species.

Fishermen in in southern areas with better weather during winter could have an advantage in catching gray triggerfish early in the fishing year. Thus, a split season ACL would allow fishermen in different regions to target gray triggerfish when weather is good in their area. Therefore, alternatives that divide the ACL into two time periods would allow for a greater opportunity among all areas to catch gray triggerfish. Furthermore, dividing the quota into two seasons would allow fishermen to target gray triggerfish in summer when historical catches have been the best.

Regardless of the alternative selected, none of them are anticipated to have adverse effects on listed *Acropora* species, large whales, or any DPS of Atlantic sturgeon. Previous ESA consultations determined the hook-and-line sector of the snapper grouper fishery was not likely to adversely affect *Acropora* species, large whales, or any DPS of Atlantic sturgeon. Regardless of the alternative selected, this action is not anticipated to increase the potential for interactions with smalltooth sawfish. However, the biological impact of these alternatives on sea turtles is unclear. **Alternative 1 (No Action)** may be the most beneficial if it reduces the likelihood of a derby condition developing during sea turtle nesting season. Sea turtles nest along the east coast of the United States from April-October, with peak nesting

occurring from May-July. Sea turtle nesting brings gravid females closer to shore where they are more susceptible to interaction with snapper grouper fishing gear. Strictly based on the number of months fishing is projected to occur during sea turtle nesting season, **Alternatives 2** and **3** may have similar biological effects. For **Alternative 2,** the projected closure date of season 1 would likely be the early- to mid-April. This would overlap with sea turtle nesting season by 0 to 0.5 months. Season 2 would likely close sometime in late-September or mid-October; overlapping with sea turtle nesting season by 3.5-4 months, including 1 peak nesting month. For **Alternative 3,** the projected closure date for season 1 would likely be late-February or early-April. Under **Alternative 3**, season 1 would likely overlap with sea turtle nesting season only slightly, if at all. Season 2 would likely close sometime in early- to mid-November; overlapping with sea turtle nesting season by 3.5-4 months, including 1 peak nesting month. However, the opening months of season 2 might see greater fishing effort if pent up demand leads to derby conditions. This greater fishing effort at the beginning of season 2 (right in the middle of peak sea turtle nesting season) might offset any biological benefits gained by the fishery closing in season 1 prior to the beginning of sea turtle nesting. Conversely, if the 60% allocation for season 2, lessens the likelihood of derby fishing during sea turtle nesting months by extending fishing over a longer period, this alternative may be more biologically beneficial. If it does not, then both **Alternatives 2** and **3** are likely to have similar biological benefits.

Economic Effects

The 2012 commercial season for gray triggerfish was open for a total of 260 days and the 2013 season for a total of 204 days. The following analysis uses the shorter open season in 2013 to assess the potential economic effects of the alternatives.

As of December 31, 2013, 305,856 lbs ww of gray triggerfish had been landed commercially in the South Atlantic (NMFS SERO: http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html), which is higher than the ACL of 272,880 lbs ww. The above landings as of December 31 divided by the 204 days the season was open suggests an average daily catch in 2013 of approximately 1,499 lbs ww per day. For the season to have remained open for the entire year (365 days), the average daily catch rate would have had to be approximately 748 lbs ww based on the current commercial ACL of 272,808 lbs ww, and 856 lbs ww based on the commercial ACL that would result from the South Atlantic Council's choice of an ABC under **Preferred Sub-alternative 4a** in **Action 2**. The above estimate of average 2013 daily landings is used in the following analysis to estimate the economic effects of the alternatives. Additionally, consideration must be given to the other ACLs that could result from the various alternatives of **Action 2**. **Table 4.4.5** below indicates the various estimated lengths of the fisheries based on the three sub-alternatives

Table 4.4.5. Estimated length of the commercial gray triggerfish season for Action 4 Alternatives 1 (No Action) and 2 based on the preferred alternative under Action 2.

Action 4	Season	ACL (lbs ww)				
		Action 2				
		Alt. 1	Pref. Sub-Alt. 4a	Sub-Alt. 4b	Sub-Alt. 4c	
Alt. 1	Jan 1 - Dec 31	272,880	**312,325**	334,634	223,089	
Alt. 2	Jan 1 - Jun 30	136,440	**156,162**	167,317	111,544	
	Jul 1 - Dec 31	136,440	**156,162**	167,317	111,544	
Alt. 3	Jan 1 - Jun 30	109,152	**124,930**	133,854	89,236	
	Jul 1 - Dec 31	163,728	**187,395**	200,780	133,853	

Action 4	Season	Days to Reach ACL If 1,499 lbs ww/Day Landed				
		Action 2				
		Alt. 1	Pref. Sub-Alt. 4a	Sub-Alt. 4b	Sub-Alt. 4c	
Alt. 1	Jan 1 - Dec 31	182	**208**	223	149	
Alt. 2	Jan 1 - Jun 30	91	**104**	112	74	
	Jul 1 - Dec 31	91	**104**	112	74	
Alt 3	Jan 1 - Dec 31	73	**83**	89	60	
	Jul 1 - Dec 31	109	**125**	134	89	

Action 4	Season	Day Season Would Close				
		Action 2				
		Alt. 1	Pref. Sub-Alt. 4a	Sub-Alt. 4b	Sub-Alt. 4c	
Alt. 1	Jan 1 - Dec 31	30-Jun	**26-Jul**	10-Aug	27-May	
Alt. 2	Jan 1 - Jun 30	31-Mar	**13-Apr**	20-Apr	14-Mar	
	Jul 1 - Dec 31	29-Sep	**12-Oct**	19-Oct	12-Sep	
Alt. 3	Jan 1 - Jun 30	12-Mar	**23-Mar**	29-Mar	28-Feb	
	Jul 1 - Dec 31	17-Oct	**2-Nov**	10-Nov	27-Sep	

Source: SERO (http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/commercial_sa/index.html, accessed on November 13, 2013).

Preferred Sub-alternative 4a of **Action 2** would increase the commercial ACL for triggerfish by approximately 14% (+26 days based on the 2013 daily catch rate). **Sub-Alternative 4b** and **4c** of **Action 2** would increase the commercial ACL for triggerfish by approximately 23% (+41 days based on the 2013 daily catch rate) and **Sub-Alternative 4c** would decrease it by approximately 18% (-33 days based on the 2013 daily catch rate). Hence, the economic effects of **Alternatives 2** and **3** of **Action 4** would be dependent on which **Sub-Alternative** (**Preferred 4a**, **4b**, or **4c**) of **Action 2** is selected. In 2014, the Christian season of Lent runs from March 5 to April 17. Under **Alternatives 2** and **3** (status quo commercial ACL) of **Action 4** would close the first half of the 2014 season before Lent ends if **Alternative 1** or **Sub-Alternatives 4a (Preferred), 4b** or **4c** of **Action 2** is selected. If market demand is typically higher during that season, a closure before the Lenten season ends would cut into higher priced revenues.

The economic effects of changing the commercial ACL are discussed under **Action 2** of this amendment. The alternatives under **Action 4** would not change the overall economic effects. However, **Alternatives 2** and **3**, which institute split seasons, have the potential to redistribute geographically where the economic effects would be felt. **Table 4.4.3** shows that historically 40% of the landings of gray triggerfish occur in the first 6 months of the year, which is what is proposed by **Alternative 3**.

At the beginning of the year, Florida's fishermen benefit from milder winters. They are less likely to cancel a trip due to adverse weather conditions than their northern counterparts in the Carolinas. Consequently, Florida's gray triggerfish commercial fisherman may have a head start in the annual landings count. **Alternative 1 (No Action)** of **Action 4** would keep that advantage, while **Alternatives 2** and **3** make more of the ACL available to larger area of the South Atlantic.

Social Effects

Gray triggerfish is an increasingly important commercial species, with growing effort and market demand that are likely associated with closures for other species, as discussed in **Section 4.3.3**. The effects on the commercial fleet due to changing the gray triggerfish commercial fishing year into split seasons would depend on the seasonal quota and the rate of catch. Under **Action 2**, the seasonal quota for gray triggerfish could be increased or decreased, which would affect how a split season would provide benefits or negative effects on commercial harvesters. A lower commercial quota would be expected to result in shorter available fishing time in a full-year season or split seasons, and could generate derby conditions. In addition to concerns about safety at sea that arise from the race to fish, a derby could result in a large amount of gray triggerfish on the market in a very short period of time. This may cause reduced market value and lower product quality, and the bust-and-boom nature of the commercial gray triggerfish sector may hinder business stability and steady job opportunities for captain and crew.

A split season under **Alternative 2** or **Alternative 3** would likely be beneficial to commercial fishermen harvesting gray triggerfish in North Carolina and South Carolina. Because the current fishing year starts in January 1 (**Alternative 1, No Action**), fishermen in North Carolina and South Carolina sometimes have limited or no access to gray triggerfish in the early months due to weather, or could risk unsafe conditions to fish. A split season under **Alternative 2** or **Alternative 3** would likely increase access to the commercial ACL for North Carolina and South Carolina.

Depending on the percentages used for each season's quota under **Alternative 3**, the split seasons could be more beneficial for a specific area during different times of the year. For example, an area that focuses on gray triggerfish in the winter months would benefit more from a higher percentage in the first season. Likewise, an area that has higher landings and trips targeting gray triggerfish in the summer months would benefit more from a higher percentage in the second season.

Action 5. Establish a commercial trip limit for gray triggerfish

Alternative 1 (No Action). There is no commercial trip limit for gray triggerfish in the South Atlantic region.

Alternative 2. Establish a commercial trip limit for gray triggerfish in the South Atlantic region.

Sub-alternative 2a. 500 lbs
Sub-alternative 2b. 1,000 lbs
Sub-alternative 2c. 1,500 lbs

Alternative 3. Establish a commercial trip limit for gray triggerfish in the South Atlantic region. When 75% of the gray triggerfish commercial ACL is met or is projected to be met, the trip limit is reduced to:

Sub-alternative 3a. 200 pounds
Sub-alternative 3b. 500 pounds
Sub-alternative 3c. 750 pounds

NOTE: The way these alternatives are written Alternative 3 can only be selected if Alternative 2 is selected. Council could consider editing Alternative 3 as shown above to also establish a commercial trip limit AND a step-down.

COMMITTEE ACTION: Consider suggested edit to Alternative 3 under Action 5.
OPTION 1. APPROVE THE SUGGESTED EDIT TO ALTERNATIVE 3 UNDER ACTION 5.

OPTION 2. DO NOT APPROVE THE SUGGESTED EDIT TO ALTERNATIVE 3 UNDER ACTION 5 AND INDICATE THAT MULTIPLE PREFERRED ALTERNATIVES COULD BE CHOSEN.

COMMITTEE ACTION: Select preferred alternatives for Action 5.
OPTION 1. SELECT ALTERNATIVE 1 (NO ACTION) AS THE PREFERRED ALTERNATIVE FOR ACTION 5.

OPTION 2. SELECT ALTERNATIVE 2 WITH SUB-ALTERNATIVE X AS THE PREFERRED ALTERNATIVE FOR ACTION 5.

OPTION 3. SELECT ALTERNATIVE 2 WITH SUB-ALTERNATIVE X AND ALTERNATIVE 3 WITH SUB-ALTERNATIVE Y AS PREFERRED ALTERNATIVES UNDER ACTION 5.

OPTION 4. OTHERS?

Biological Effects

Alternative 1 (No Action) would not establish a trip limit for gray triggerfish. Currently, the commercial ACL is 272,880 lbs ww. Under **Preferred Sub-alternative 4a**, the commercial ACL would be 312,325 lbs ww. Based on 2012 landings data, the 272,880 lbs ww commercial ACL would have been met in late August, and the 312,325 lbs ww commercial ACL would have been met in mid-September (**Table 4.4.1**). In 2012, the commercial ACL was 306,262 lbs ww, and gray triggerfish was closed on September 11, 2012. In 2013, the commercial ACL was 272,880 lbs ww, gray triggerfish was closed on July 7, 2013, but was reopened from October 28 to November 14. Thus, without a trip limit, commercial closures for gray triggerfish are expected.

The effects of trip limits proposed in **Alternatives 2** and **3** for 2008-2012 landings are based on logbook data. **Alternative 2** would establish commercial trip limits ranging from 500 lbs ww to 1,500 lbs ww. Landings information from 2012 (**Table 4.5.1**) show that about 8% of the trips had landings greater than 500 lbs ww (**Sub-alternative 2a**), 2% of the trips had landings greater than 1,000 lbs ww (**Sub-alternative 2b**), and less than 1% of the trips had landings greater than 1,500 lbs ww (**Sub-alternative 2c**). Thus, commercial closures would still be expected under **Sub-alternatives 2a-2c**. Assuming landings during September-December 2012 would have been similar to those of 2008-2011, a 42% reduction in harvest would be needed to keep gray triggerfish open all year in 2012 with a commercial ACL equal to 272,880 lbs ww. If the commercial ACL is increased to 312,325 lbs ww based on **Preferred Sub-alternative 4a**, a 33% reduction 2012 landings would be needed. Thus, if effort were to remain at the same levels as in 2012, a trip limit of 250 lbs ww (ACL = 272,880 lbs ww) or 300 lbs ww (312,325 lbs ww) would be needed to obtain the harvest reduction needed to keep the commercial sector open all year. However, if the trip limit was set at that level, it is expected some fishermen would no longer target gray triggerfish. **Tables 4.5.2a and 4.5.2b** show the expected dates that the commercial ACLs of 272,880 lbs and 312,325 lbs ww would be expected to be met under **Sub-alternatives 2a-2c**. A 500 lb ww trip limit (**Sub-alternative 2a**) would have been expected to extend the 2011-2012 fishing seasons by over a month as compared to **Alternative 1 (No Action)**, and a 1,500 lb ww trip limit (**Sub-alternative 2b**) would have been expected to extend the fishing season by about a week.

Alternative 3 would specify a reduction in the trip limit when 75% of the commercial ACL is caught. For 2011 and 2012, it is expected that 75% of the current 272,880 lbs ww ACL would have been met in June, and 75% of the proposed commercial ACL of 312,325 lbs ww would have been met in July. Reducing the trip limit to 200 lbs ww after 75% of the 272,880 lbs ww ACL is met (**Sub-alternative 3a**) would have been expected to result in a closure during September based on data from 2011 and 2012. For the proposed commercial ACL of 312,325 lbs ww, an October commercial closure would have been expected based on data from recent years.

Reducing the trip limit to 500 lbs ww (**Sub-alternative 3b**) when 75% of the commercial ACL is met would have been expected to result in a late August or early September for the current commercial ACL = 272,880 lbs ww, and mid to late September commercial closure based on the proposed commercial ACL of 312,325 lbs ww. Based on 2011 and 2012 data, reducing the trip limit to 750 lbs ww (**Sub-alternative 3c**) when 75% of the commercial ACL is met would have been expected to result in an August closure for the current ACL of 272,880 lbs ww, and an early September commercial closure for the proposed commercial ACL of 312,325 lbs ww.

Table 4.5.1. Trip limit, number of trips, percentage of trips greater than trip limit, and harvest reduction provided by trip limit for 2012.

Trip Limit (lbs ww)	2012		
	# Trips	% Trips	Harvest Reduction
0	1,702	100.00%	100.00%
100	652	38.31%	65.24%
112	616	36.19%	62.53%
150	505	29.67%	55.02%
175	441	25.91%	50.81%
200	394	23.15%	47.09%
224	364	21.39%	43.84%
250	323	18.98%	40.66%
300	268	15.75%	35.40%
337	239	14.04%	32.10%
500	143	8.40%	21.31%
600	111	6.52%	16.74%
700	80	4.70%	13.24%
800	66	3.88%	10.67%
900	48	2.82%	8.69%
1,000	39	2.29%	7.16%
1,100	28	1.65%	5.98%
1,200	22	1.29%	5.08%
1,300	18	1.06%	4.36%
1,400	15	0.88%	3.76%
1,500	14	0.82%	3.24%
1,600	9	0.53%	2.89%
1,700	8	0.47%	2.58%
1,800	6	0.35%	2.32%
1,900	4	0.24%	2.13%

Trip Limit (lbs ww)	2012		
	# Trips	% Trips	Harvest Reduction
2,000	3	0.18%	2.00%
2,250	2	0.12%	1.79%
2,500	2	0.12%	1.61%
2,750	2	0.12%	1.44%
3,000	2	0.12%	1.26%
3,250	2	0.12%	1.08%
3,500	2	0.12%	0.90%
3,750	2	0.12%	0.73%
4,000	1	0.06%	0.59%
4,250	1	0.06%	0.50%
4,500	1	0.06%	0.41%
4,750	1	0.06%	0.32%
5,000	1	0.06%	0.23%
5,250	1	0.06%	0.14%
5,500	1	0.06%	0.05%
5,750	0	0.00%	0.00%

Source: Coastal logbook data from June 2013.

Table 4.5.2a. Expected dates that the current 272,880 lbs ww commercial ACL for gray triggerfish would be expected to be met under Alternatives 2 and 3.

Year	Sub-Alt 2a	Sub-Alt 2b	Sub-Alt 2c	Alt 1	75%	Sub-Alt 3a	Sub-Alt 3b	Sub-Alt 3c
	500 lb	1,000 lb	1,500 lb	No Trip Limit		200 lb after 75%	500 lb after 75%	750 lb after 75%
2008	Not met	11/17	11/7	10/30	9/12	12/29	11/15	11/1
2009	11/20	10/14	10/7	10/1	9/5	11/9	11/30	10/2
2010	10/19	9/28	9/21	9/15	7/20	10/16	9/26	9/16
2011	9/18	8/25	8/18	8/13	6/17	9/12	8/24	8/14
2012	10/5	9/6	9/1	8/23	6/15	9/27	9/11	8/23

Table 4.5.2b. Expected dates that the proposed 312,325 lbs ww commercial ACL for gray triggerfish would be expected to be met under Alternatives 2 and 3.

Year	Sub-Alt 2a	Sub-Alt 2b	Sub-Alt 2c	Alt 1	75%	Sub-Alt 3a	Sub-Alt 3b	Sub-Alt 3c
	500 lb	1,000 lb	1,500 lb	No Trip Limit		200 lb after 75%	500 lb after 75%	750 lb after 75%
2008	Not met	Not met	12/16	12/3	10/7	Not met	Not met	12/4
2009	Not met	11/11	10/31	10/24	9/16	Not met	11/9	10/25
2010	11/9	10/15	10/10	10/6	8/20	11/3	9/15	10/6
2011	10/15	9/14	9/7	9/3	7/19	10/5	9/13	9/4
2012	11/1	9/29	9/22	9/16	7/18	10/24	9/27	9/17

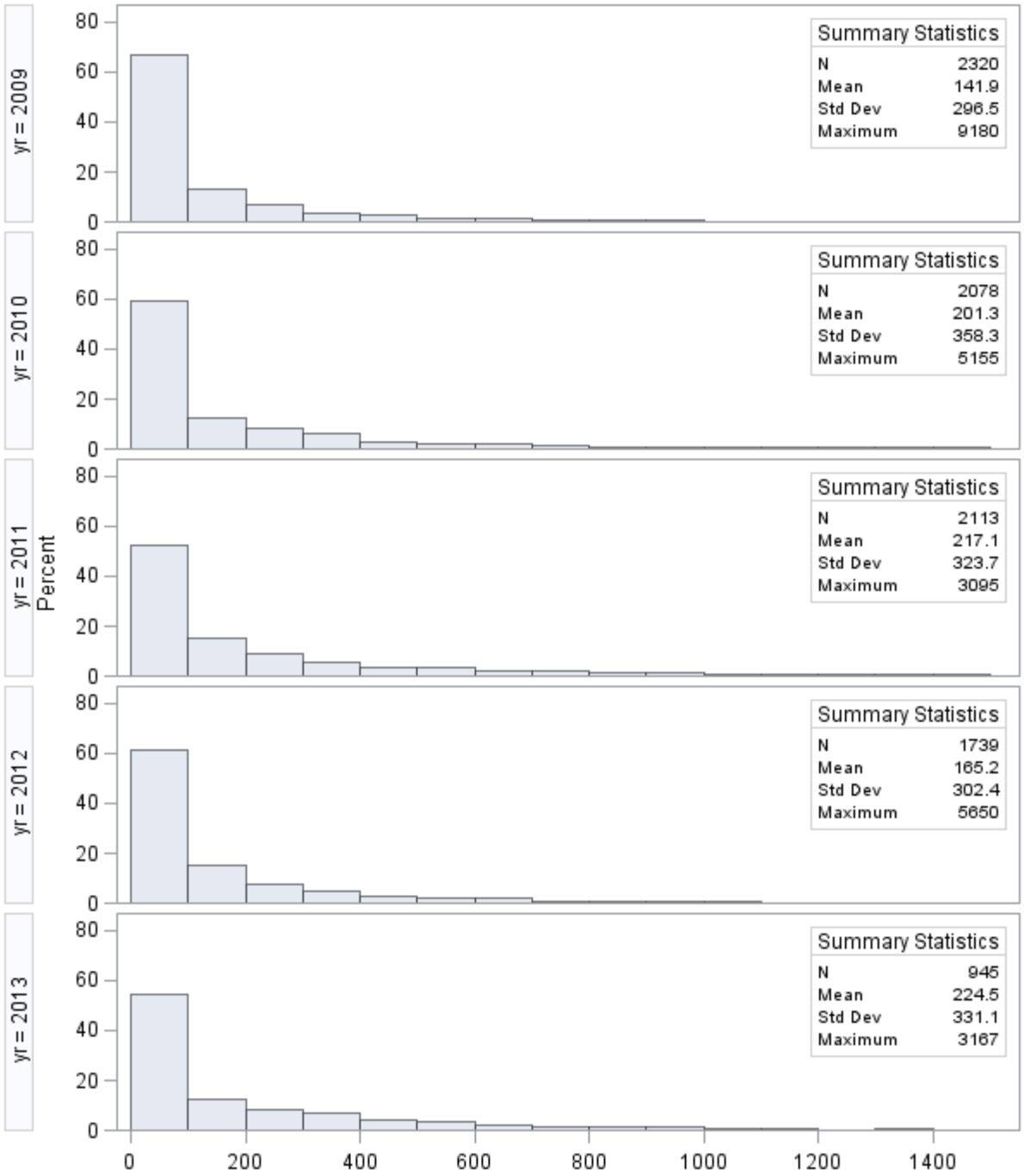

Figure 4.5.1. Gray triggerfish commercial catch per trip 2010-2013.
Note 2013 data are incomplete. Source: SEFSC Commercial Logbook (Nov 2013).

There has been a shift towards increased targeting of gray triggerfish in the commercial fishery in recent years (**Figure 4.5.1**). Mean catch per trip increased from 141 lb/trip to 224.5 lb/trip between 2009-2013. This change in catch was considered in estimating when a trip limit would be expected to be met in 2014.

Using the SEFSC commercial logbook, the impacts of various trip limit alternatives for the commercial South Atlantic gray triggerfish fishery were explored by replacing trips with harvest exceeding the trip limit with the trip limit level harvest. Trip level landings of gray triggerfish were summarized from captain reported logbooks assuming both 'gray triggerfish' and 'triggerfish, unclassified' were gray triggerfish, as this is consistent with the ACL monitoring of the stock. Trip limits above 500 lbs ww had little impact upon gray triggerfish harvest (**Table 4.5.3**).

Table 4.5.3. Commercial gray triggerfish percent of status quo harvest, by month, under various proposed trip limits, as 3-year average of 2011-2013.

TRIP LIMIT	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
1500-lb	99%	100%	95%	97%	96%	94%	100%	100%	100%	89%	98%	99%	98%
1000-lb	96%	95%	85%	86%	93%	92%	99%	99%	99%	79%	94%	96%	93%
750-lb	90%	90%	76%	75%	90%	89%	98%	99%	95%	73%	88%	89%	87%
500-lb	78%	77%	62%	60%	83%	83%	95%	95%	89%	63%	80%	74%	77%
300-lb	60%	59%	46%	43%	70%	71%	85%	87%	79%	54%	73%	53%	61%
200-lb	46%	45%	36%	32%	57%	62%	73%	78%	70%	45%	67%	40%	49%
100-lb	27%	27%	21%	19%	38%	44%	53%	63%	56%	31%	60%	24%	31%

Source: SEFSC Commercial Logbook (Nov 2013).
Note: 2013 data are currently incomplete.

Evaluation of trip limit impacts on season length accounted for the recent trends in landings by fitting a seasonal autoregressive integrated moving average model (SARIMA) to commercial catch-per-day and forward projecting one year (See Action 3). The analysis also accounted for the change in the size limit (Action 3, Preferred Alternative 3: 12" FL for all SAFMC states). Analyses were conducted using the current commercial ACL of 272,880 lbs ww and proposed commercial ACL of 312,325 lbs ww that would result from **Preferred Sub-alternative 4a** in **Action 2**. Lower trip limits lead to longer seasons (**Tables 4.5.4** and **4.5.4b**). A 100-lb trip limit for the entire season is the only alternative projected to keep the fishery open year-round.

Table 4.5.4a. Commercial gray triggerfish projected mean closure dates, with 95% confidence limits, under a variety of trip limit scenarios for the current commercial ACL.

Alternative	Trip Limit	Mean	L95%	U95%
1	No trip limit	31-Jul	No Closure	23-Apr
2c	1500-lb trip limit	4-Aug	No Closure	27-Apr
2b	1000-lb trip limit	10-Aug	No Closure	7-May
	750-lb trip limit	19-Aug	No Closure	20-May
2a	500-lb trip limit	4-Sep	No Closure	15-Jun
	300-lb trip limit	28-Sep	No Closure	23-Jul
	200-lb trip limit	9-Nov	No Closure	19-Aug
	100-lb trip limit	No Closure	No Closure	10-Oct
3a	200-lb trip limit @ 75% ACL	16-Aug	No Closure	7-Jun
3b	500-lb trip limit @ 75% ACL	4-Aug	No Closure	13-May
3c	750-lb trip limit @ 75% ACL	2-Aug	No Closure	5-May

Table 4.5.4b. Commercial gray triggerfish projected mean closure dates, with 95% confidence limits, under a variety of trip limit scenarios for the proposed commercial ACL of 312,325 lb ww.

Alternative	Trip Limit	Mean	L95%	U95%
1	No trip limit	22-Aug	No Closure	15-May
2c	1500-lb trip limit	26-Aug	No Closure	19-May
2b	1000-lb trip limit	1-Sep	No Closure	30-May
	750-lb trip limit	8-Sep	No Closure	13-Jun
2a	500-lb trip limit	22-Sep	No Closure	8-Jul
	300-lb trip limit	31-Oct	No Closure	10-Aug
	200-lb trip limit	21-Dec	No Closure	6-Sep
	100-lb trip limit	No Closure	No Closure	11-Nov
3a	200-lb trip limit @ 75% ACL	4-Sep	No Closure	25-Jun
3b	500-lb trip limit @ 75% ACL	25-Aug	No Closure	31-May
3c	750-lb trip limit @ 75% ACL	23-Aug	No Closure	24-May

The biological effects of **Alternatives 1 (No Action), Alternative 2** (and its sub-alternatives)**,** and **Alternative 3** (and its sub-alternatives) would be expected to be neutral because ACLs and AMs are in place to cap harvest, and take action if ACLs are exceeded. **Alternative 1 (No Action)** could present a greater biological risk to gray triggerfish in terms of exceeding the ACL than **Alternatives 2** and **3** since no trip limit would be in place to slow down the rate of harvest and help ensure the ACL is not exceeded. However, improvements have been made to the quota monitoring system, and the South Atlantic Council has approved a Dealer Reporting Amendment, which should enhance data reporting. Therefore, any biological benefits associated with trip limits would be expected to be small. Larger trip limits would not constrain catch and would result in the ACL being met earlier in the year. Early closures of gray triggerfish could result in increased bycatch of gray triggerfish when fishermen target co-occur species such as vermilion snapper and black sea bass. However, release mortality of gray triggerfish is considered to be very low. An ongoing stock assessment for gray triggerfish in the South Atlantic estimates that 87.5% of released fish survive. Thus, commercial closures associated with meeting the ACL are not expected to negatively affect the gray triggerfish stock due to bycatch.

Regardless of the alternative selected, none is anticipated to have adverse effects on listed *Acropora* species, large whales, or any DPS of Atlantic sturgeon. Previous ESA consultations determined the hook-and-line sector of the snapper grouper fishery was not likely to adversely affect *Acropora* species, large whales, or any DPS of Atlantic sturgeon. For the species that may interact with the fishery (i.e., sea turtles and smalltooth sawfish), there is likely to be no additional biological benefit from **Alternative 1 (No Action)** because it would perpetuate the existing level of risk for interactions between these ESA-listed species and the fishery. The impacts from **Alternatives 2 and 3,** and associated sub-alternatives, on sea turtles and smalltooth sawfish are unclear. Since few commercial trips that landed gray triggerfish landed more than 500 lbs ww per trip from 2009-2013, it is likely that **Alternative 2** and its sub-alternatives will have little impact on landings of gray triggerfish. If so, it is likely that regardless of the trip limit selected, the risk of interactions between the fishery, sea turtles, and smalltooth sawfish will be largely unchanged. Thus, the biological benefits to the species from **Alternatives 1 (No Action) and 2** are likely to be the same. If the lower trip limits of **Alternative 3** and its sub-alternatives is selected, and effort is reduced as a result, this alternative may have the greatest biological benefits for sea turtles and smalltooth sawfish by potentially reducing the likelihood of interactions between these species an the

fishery. However, if this alternative simply lengthens the fishing season and does not actually reduce fishing effort, **Alternative 3** may have the same overall biological benefits as the other alternatives.

Economic Effects

Commercial trip limits in general, are not economically efficient. They have a tendency to increase some fishing trip costs where a trip must stop targeting a specific species because the trip limit has been reached. Unless a vessel that has reached its limit of the targeted fish can easily move into targeting a different species on the same trip, trip costs associated with the species where the limit has been reached will increase because it will require more trips by vessels to catch the ACL. Although lower trip limits can lengthen an open fishing season, trip limits can also economically disadvantage larger vessels and vessels that have to travel further to reach their fishing grounds. Depending on vessel characteristics and the distance required to travel to fish, a trip limit that is too low could result in targeted trips that are cancelled altogether, if the vessel cannot target other species on the same trip. As long as the entire commercial ACL is caught in a fishing year as is expected and fishermen are able to continue to have profitable trips at the same rate, none of the alternatives or sub-alternatives of **Action 5** will result in positive or negative economic changes from the status quo. However, it is not possible at this time to estimate the number of trips that might be foregone should a trip limit be set too low to be deemed profitable.

In 2012, 21.31% of commercial trips landed more than 500 lbs ww per trip of gray triggerfish, 7.16% of trips landed more than 1,000 lbs ww, and 3.24% of trips landed more than 1,500 lbs ww (**Table 4.5.1**). Consequently, **Alternative 1 (No Action)** and **Sub-Alternatives 2a**, **2b** and **2c** are expected to extend the season for gray triggerfish. Allowing a 500 lb ww trip limit (**Sub-alternative 2a**) would only extend the season by one month compared to **Sub-alternative 2c**'s 1,500 lbs trip limit (**Tables 4.5.4a** and **4.5.4b**). And having no trip limit as in **Alternative 1 (No Action)** only shortens the season by 5 additional days compared to **Sub-alternative 2c**.

It is reasonable to expect that larger vessels that make longer trips could have landings greater than 500, 1,000 or 1,500 lbs. If so, **Sub-Alternative 2a** would have the largest adverse economic effect on individual commercial fishermen with historically larger landings per trip, followed in turn by **Sub-Alternatives 2b** and **2c**. **Alternative 1 (No Action)** would have no adverse economic impact beyond that baseline.

Implementing the trip limits of **Alternative 3** after 75% of the ACL has been taken are projected to offer only short extensions the fishing season (**Table 4.5.4a** and **4.5.4b**). A 200 lbs ww trip limit after 75% of the ACL has been taken is projected to extend the season by 16 days (**Sub-alternative 3a**) compared to no trip limits. A 500 lbs ww trip limit after 75% of the ACL has been taken is projected to extend the season by 4 days (**Sub-alternative 3b**) and a 750 lbs ww trip limit after 75% of the ACL has been taken is projected to extend the season only by 2 days (**Sub-alternative 3c**).

None of the sub-alternatives of **Alternative 3** are expected to have significant impact on extending the length of the fishing season, the sub-alternatives are expected to have minimal economic effects when compared to **Alternative 1 (No Action)**. Higher trip limits mean the total ACL would be reached sooner, however, the higher the trip limit increases the possibility of any given trip to be more profitable. A trip limit of 750 lbs ww after 75% of the ACL has been taken as in **Sub-Alternative 3c** would provide the

greatest direct positive economic effect, followed by **Sub-Alternatives 3b** (500 lbs ww) and **3a** (200 lbs ww), respectively.

All the alternatives/sub-alternatives of **Action 5** were compared in terms of their impact on the probability that any gray triggerfish trip limit would be profitable. **Alternative 1 (No Action)** is the alternative that gives the greatest probability of having any given trip be profitable. **Alternative 3** is the same as **Alternative 1 (No Action)** until 75% of the ACL is taken. After that, the decreasing probability of a profitable trip would be by **Alternative 2, Sub-alternative 2c**, **Alternative 2, Sub-alternative 2b**, **Alternative 3, Sub-alternative 3c**, **Alternative 2, Sub-alternative 2a**, **Alternative 3, Sub-alternative 3b**, and **Alternative 3, Sub-alternative 3a**.

Social Effects

As noted in **Section 4.3.3**, gray triggerfish is an increasingly important commercial species in the South Atlantic region. These communities would be expected to experience positive or negative effects if a commercial trip limit is established. In general, a commercial trip limit may help slow the rate of harvest, lengthen a season, and prevent the ACL from being exceeded, but trip limits that are too low may make fishing trips inefficient and too costly if fishing grounds are too far away. Relative to **Alternative 1 (No Action)**, **Alternatives 2** and **3** could reduce the risk of derby conditions and associated negative impacts that can occur due to an in-season closure or payback provision if the ACL is exceeded. A more restrictive trip limit is more likely to slow the rate of harvest and lengthen the season than a less restrictive trip limit, unless vessels do not currently harvest over a proposed limit. The 500-lb ww limit proposed under **Sub-alternative 2a** is the most restrictive under **Alternative 2**, but a low percentage of trips exceed 500 lbs ww of gray triggerfish at this time (**Table 4.5.1**). Very few trips exceed the 1,000 lbs ww (**Sub-alternative 2b**) and less than 1% exceed 1,500 lbs ww (**Sub-alternative 2c**) (**Table 4.5.1**). The typical low catch of gray triggerfish is likely attributed to the multi-species catch of many snapper grouper commercial trips. In addition to gray triggerfish, a commercial vessel is likely to also target several other snapper grouper species along with coastal migratory pelagic species on one trip. Therefore, a trip with low poundage of one particular species is not necessarily an inefficient trip.

The step-down trip limit when 75% of the commercial ACL is met under **Alternative 3** would allow commercial trips to continue fishing for other species, but with a sort of bycatch allowance for any gray triggerfish caught on the trips. **Sub-alternatives 3a-3c** would help to reduce discards of gray triggerfish and could help extend the season. Overall, the social benefits to the commercial fleet, associated businesses, and communities would likely be maximized as a result of some trade-off between season length and economic changes.

Timing 2013/14 (Approved at December 2013 meeting):

a. √Decision Document: review & provide guidance – September 2013 Council meeting
b. ~~Scoping Webinar if EIS – November;~~ NMFS determined an EA is appropriate.
c. √Draft Amendment 29: review, modify & approve for public hearings – December 2013 Council meeting
d. √Public Hearings – January 2014 (See XIII. 2. Dates and Locations for January 2014 for locations, document deadlines, etc.)
e. Review public hearing comments, review/modify amendment, and approve all actions – March 2014
f. Review final amendment and approve for formal review – June 2014

COMMITTEE ACTION: Provide any additional guidance as may be appropriate.