Vision Blueprint Commercial Regulatory Amendment 27 for the Snapper Grouper Fishery of the South Atlantic Region

Decision Document

The Vision Blueprint Commercial Regulatory Amendment 27 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region would address specific action items in the 2016-2020 Vision Blueprint for the Snapper Grouper Fishery of the South Atlantic Region.

June 13-14, 2017

Snapper Grouper Committee
Sawgrass Mariott
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Background

The 2016-2020 Vision Blueprint for the Snapper Grouper Fishery constitutes the long-term strategic plan for managing the fishery. The Council began developing the strategic plan in 2012 through the Visioning project, which included extensive outreach to stakeholders throughout the region and across both sectors in the fishery. The Vision Blueprint identifies the goals, objectives, strategies, and actions that support the vision for the snapper grouper fishery and centers around four goal areas - Science, Management, Communication, and Governance. During 2015, the Council prioritized action items that would be addressed through amendments to the Snapper Grouper Fishery Management Plan over the next 5 years. The Council is considering the following items for inclusion in Vision Blueprint Commercial Regulatory Amendment 27:

- Split seasons for blueline tilefish, snowy grouper, red porgy, and greater amberjack.
- Trip limits for vermilion snapper and Other Jacks Complex (lesser amberjack, almaco jack, banded rudderfish).
- Re-evaluation of the shallow-water grouper closure (also being considered for the recreational sector in Vision Blueprint Recreational Amendment 26).
- Removal of minimum size limits for deep-water species (also being considered in Vision Blueprint Recreational Amendment 26).
- Modification of the minimum size limit for gray triggerfish off east Florida (also being considered in Vision Blueprint Recreational Amendment 26).

Additional action items from the Vision Blueprint are being considered in Amendment 43 (red snapper management and recreational reporting) that could affect the commercial sector.

Purpose and need statement

Purpose for Actions

The purpose of this amendment is to modify commercial regulations such as fishing seasons, trip limits, seasonal closures, and minimum size limits for species in the snapper grouper fishery.

Need for Actions

The need for this amendment is to lengthen commercial fishing seasons, improve access, minimize discard mortality, improve compliance with the regulations, and aid in enforcement of regulations in the South Atlantic region.

Committee Action:

CONSIDER SUGGESTED EDITS AND MODIFY AS NECESSARY

Proposed Actions and Alternatives

Action 1. Establish a commercial split season for blueline tilefish

Alternative 1 (No Action). The commercial fishing year for blueline tilefish in the South Atlantic EEZ is from January 1 to December 31.

Alternative 2. Specify two commercial fishing seasons for blueline tilefish. Allocate the blueline tilefish commercial ACL into two quotas: XX% to the period January 1 through June 30 and YY% 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.

Alternative 3. Specify two commercial fishing seasons for blueline tilefish. Allocate the blueline tilefish commercial ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

Preliminary Effects Analysis:

1.1 Biological Effects

It is difficult to evaluate the alternatives given the unspecified percentages for dividing the commercial ACL into seasonal quotas. Further, due to recent quota closures (**Table 1.1**), data were not available from recent years to inform Season 2 landings. Blueline tilefish management has been very dynamic over the past few years, with many regulatory changes including a prohibition of harvest beyond 240 fathoms in 2011 (Amendment 17B, SAFMC 2010b). The input data available for forecasting future landings have consequently been affected, which has implications for the reliability of analyses. In general, the most recent year is probably the best available predictor of future trends.

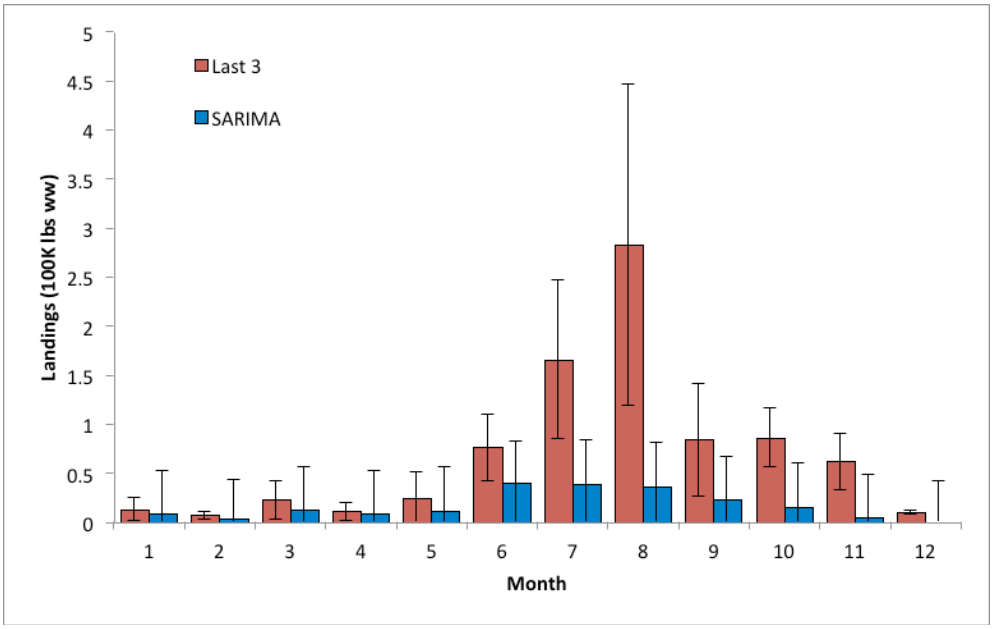
Table 1.1. Blueline tilefish recent landings (lbs ww) and quota closures.

Fishing Year	Current Landings	ACL	%ACL	Closure Date
2017*	35,464	87,521	40.52	
2016*	101,043	87,521	115.45	6/1/16; reopened 7/13/16, closed 8/30/16
2015	78,802	17,841	441.69	4/7/2015
2014	143,942	112,207	128.28	6/23/2014
2013	309,411	376,469	82.19	
2012	378,667	343,869	110.12	9/8/2012

Source: SERO ACL Monitoring Webpage. *Data are preliminary

Two projection models were developed: (1) based on the last three years of data (2014-2016; "Last 3"), and (2) a seasonal auto-regressive integrated moving average (SARIMA) model fit to landings data from 1997-2016. Commercial discards were estimated by month using the SEFSC Commercial Logbook and Supplemental Discard Logbook (accessed May 2017) to develop a discard rate in numbers of fish per unit effort, by species, gear, and region, and expand that rate to the total effort in the fishery by gear and region. For a more detailed explanation of these methods, please refer to **Appendix J** (in draft document).

Peak blueline tilefish landings were projected for August, followed by July (**Figure 1.1**). Projections using the Last 3 model anticipated 50% of the ACL would be reached in April (95% CI: Mar-July). SARIMA projections estimated 50% of the ACL would be reached in May (95% CI: Jan-Dec). Due to recent dynamic changes in the fishery and challenges accounting for the imposition of a 300-lb trip limit in July 2016, there is substantial uncertainty in these projections.



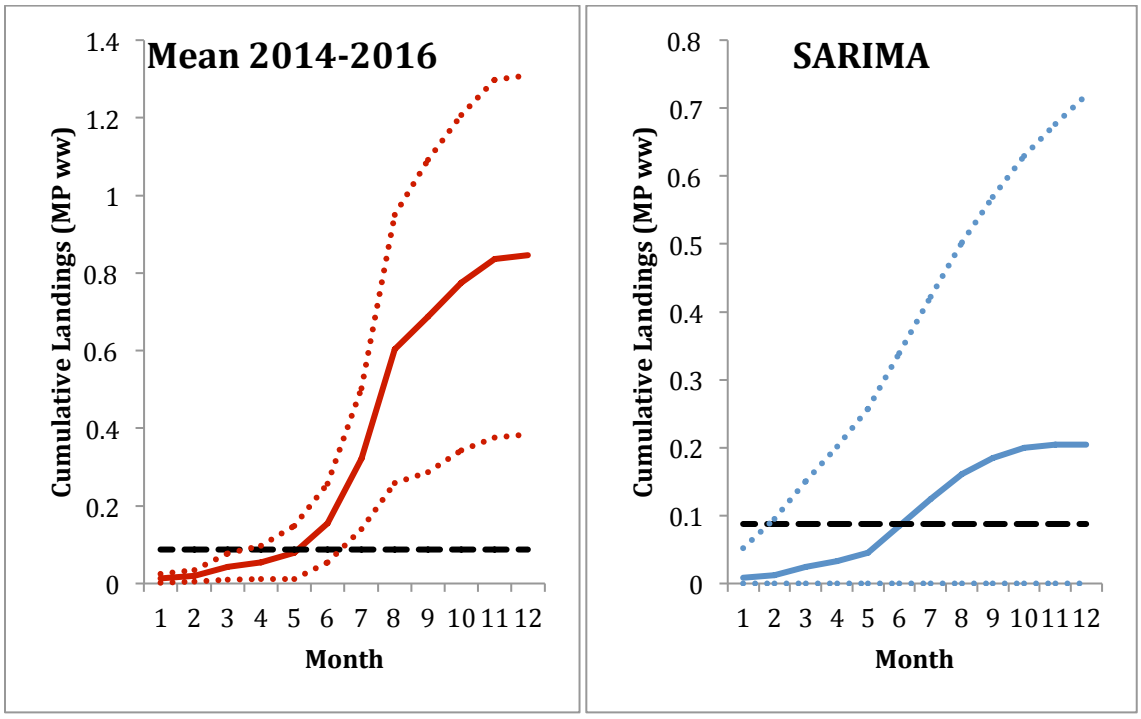


Figure 1.1. Blueline tilefish projected commercial landings (MP: million pounds, whole weight) under Alternative 1 (No Action) by month (top) and mean (solid line) and 95% confidence limits (dotted lines) estimates for cumulative landings relative to ACL (bottom, dashed line) for two projection models: Mean of last 3 years (2014-2016) and SARIMA.

Spawning seasons and months of peak spawning activity for select snapper grouper species in the South Atlantic are presented in **Table 1.2**.

Table 1.2. Timing of spawning (gray shading) and peak spawning (black shading) for exploited Atlantic Ocean reef fish stocks off the southeastern United States.
Months in bold denote core SERFS core fishery-independent sampling months.

Stock	Jan	Feb	Mar	Apr	**May**	**Jun**	**Jul**	**Aug**	**Sep**	Oct	Nov	Dec	Citation
Gray triggerfish													[10]
Greater amberjack													[7]
White grunt													[14, 17]
Cubera Snapper													WDH, pers. comm.
Red snapper													[17, 18]
Vermilion snapper													[2, 17]
Blueline tilefish													[6]
Tilefish													[4, 17]
Black sea bass													[15, 17]
Gag													[13, 17]
Red grouper													[1]
Scamp (NC)													[12]
Scamp (FL)													[5]
Scamp (29.95–32.95 °N)													[8, 17]
Snowy grouper													[16, 19]
Speckled hind													[20]
Warsaw Grouper													[11, 17]
Red porgy													[3, 17]

doi:10.1371/journal.pone.0172968.t006
Source: Farmer et al. 2017 and references therein.

Mean monthly estimates of commercial discards for the affected species in this amendment, including blueline tilefish, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. From 2014 through 2016, discards of blueline tilefish peaked in April followed by August and September, the latter due to early closure of commercial harvest during those years.

The biological impacts of a split season for blueline tilefish under **Alternative 2** or **Alternative 3** are likely to be neutral since overall harvest would be limited to the sector ACL and split-season quotas, and accountability measures would be triggered if the ACL or quotas were exceeded. Dividing the ACL into two time periods could result in blueline tilefish being open for a short period of time, and might encourage derby conditions relative to **Alternative 1 (No Action)**. Discards of blueline tilefish and co-occurring species, such as snowy grouper, might be expected after quotas are met under **Alternatives 2** and **3**. An increase in bycatch of both blueline tilefish and snowy grouper could be reduced if commercial split seasons coincide (snowy grouper commercial split season is considered under **Action 3**).

Table 1.3. Mean monthly estimates of discards (numbers of fish) from all South Atlantic commercial trips (2014-2016) based on self-reported discard rates (SEFSC Supplemental Discard Logbook, accessed May 2017) expanded to overall South Atlantic commercial fishing effort (SEFSC Commercial Logbook, accessed May 2017), aggregated across all gears. Note that SEDAR has found this approach consistently underestimates discarded fish relative to observer data in the Gulf of Mexico.

Month	Blueline Tilefish	Red Porgy	Snowy Grouper	Greater Amberjack	Vermilion Snapper	Jacks	SWG	DWS	Gray Triggerfish
1	0.00	2,784.62	21.79	126.52	112.93	14.60	361.09	0.00	5.33
2	2.38	2,950.04	9.69	100.28	10.54	9.20	404.17	0.00	97.35
3	2.04	2,732.02	31.40	105.94	68.95	4.93	557.48	0.61	6.12
4	1,558.58	1,405.03	17.00	31.43	67.77	0.54	368.23	0.00	87.54
5	456.90	599.67	61.73	467.96	581.99	32.44	1,335.87	0.00	301.74
6	276.24	287.47	87.23	521.50	325.87	99.53	579.78	0.00	119.99
7	11.35	364.42	50.90	258.53	643.80	254.69	971.22	0.00	492.58
8	805.09	636.27	19.76	233.53	176.77	582.11	901.70	0.00	722.74
9	1,146.26	202.66	13.41	168.20	229.39	439.25	1,088.71	0.00	526.26
10	0.00	43.29	1.70	223.60	617.30	587.64	1,224.53	0.00	49.79
11	0.00	14.12	22.80	24.84	1,356.20	65.21	1,360.18	0.00	141.87
12	0.00	39.50	1.57	31.26	904.97	152.30	615.67	0.00	106.90

SWG: Shallow-water grouper (gag, black grouper, scamp, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, graysby, and coney), DWS: Deep-water snapper (blackfin, queen, silk snapper).

1.2 Economic Effects

To be completed.

1.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of blueline tilefish is included in **Section 3.4**. Blueline tilefish is u restrictive catch limits, and a split season under **Alternatives 2** and **3** may help to extend commercial harvest longer than under **Alternative 1 (No Action)**. In general, a split season (**Alternatives 2** and **3**) would be most beneficial for fishermen targeting other species in th beginning of the year, because it would ensure that a portion of the commercial ACL woul available later in the year. Establishing a split season under **Alternatives 2** and **3** could res fishermen shifting effort to or from a certain species (including targets on multi-species trip based on economic, regulatory, biological, or environmental changes in the fishery resultin from changes in access to the blueline tilefish resource.

Because the ACL for blueline tilefish is already low, split seasons could generate (or perpetuate) derby conditions. In addition to concerns about safety at sea that arise from the to fish, a derby could result in a large amount of blueline tilefish on the market in a very sh period of time. This may cause reduced market value and lower product quality, and the bu and-boom nature of the commercial blueline tilefish sector may hinder business stability an steady job opportunities for captain and crew. Overall, the positive and negative effects on commercial fishermen of establishing a split season under **Alternatives 2** and **3** will depen the proportion of the ACL for each season, the length of each season, and the likelihood of commercial harvest being open during times of the year when it is profitable to target blueli tilefish.

1.4 Administrative Effects

Of the three alternatives considered, **Alternatives 2** and **3** would impose the most signi direct administrative burden. Ongoing monitoring of the new annual commercial quotas w be required. If the quota for each season is close to being met or exceeded, NMFS would h prepare and issue fishery closure notices twice as often as they would be required under **Alternative 1 (No Action)**. Additionally, enforcement personnel would be burdened with increase in potential fishery closures, which they would have to monitor. Outreach materia would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. As with **Alternative 1 (N Action),** there is twice the potential under **Alternatives 2** and **3** that the fishery would need reopened so that landings could reach the ACL.

Committee Action:

Action 1. Establish a commercial split season for blueline tilefish

Alternative 1 (No Action). The commercial fishing year for blueline tilefish in the South Atlantic EEZ is from January 1 to December 31.

Alternative 2. Specify two commercial fishing seasons for blueline tilefish. Allocate the blueline tilefish commercial ACL into two quotas: XX% to the period January 1 through June 30 and YY% 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.

Alternative 3. Specify two commercial fishing seasons for blueline tilefish. Allocate the blueline tilefish commercial ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

IPT input:

- Council may want to consider moving this action to blueline tilefish amendment (Amendment 38) given new stock assessment with updated ACL arriving June 2018 through SEDAR 50. Also, blueline has been very dynamic over the past few years (many regulatory changes) and data have consequently been affected, which has implications for analyses.
- Define/clarify percentages for quotas and months within alternatives

Snapper Grouper AP input:

- Commercial harvest of blueline and snowy need to be kept in line, especially important for fishery off the Carolinas after vermilion and gray triggerfish close. However, fishermen are also targeting blueline and snowy early in the year.
- Concern about ongoing assessment. Possibly wait to take action until after assessment results?
- MOTION: AP RECOMMENDS ALTERNATIVE 1, NO ACTION, ON SPLITTING THE COMMERCIAL SEASON FOR BLUELINE TILEFISH APPROVED (UNANIMOUSLY)

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 2. Establish a commercial split season for red porgy and modify commercial retention limit

Alternative 1 (No Action). The commercial fishing year for red porgy in the South Atlantic federal waters is from January 1 to December 31. During January, February, March, and April, the seasonal harvest limit of red porgy in or from South Atlantic federal waters is three per person per day or three per person per trip, whichever is more restrictive. From May 1 through December 31, the trip limit is 120 fish.

Alternative 2. Maintain the annual January 1 to April 30 seasonal harvest limit for red porgy.

Sub-Alternative 2a. Allocate the directed commercial red porgy 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 quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward.

Sub-alternative 2b. Allocate the directed commercial red porgy ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

Alternative 3. Remove the annual January 1 to April 30 seasonal harvest limit for red porgy.

Sub-Alternative 3a. Allocate the directed commercial red porgy 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 quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward.

Sub-Alternative 3b. Allocate the directed commercial red porgy ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

Preliminary Effects Analysis:

2.1 Biological Effects

It is difficult to evaluate the alternatives given the unspecified percentages for diving the commercial ACL into seasonal quotas. Similar to blueline tilefish (Action 1), commercial landings data were converted to daily catch rates within months for 1997-2016. There has been only one recent quota closure for red porgy (**Table 2.1**).

Table 2.1. Red porgy recent landings (lbs) and quota closures.

Year	Landings	ACL	Units	%ACL	Closure
2016	115,235	164,000	ww	70.27	
2015	134,185	164,000	ww	81.82	
2014	142,406	154,500	ww	92.17	
2013	155,967	153,000	gw	101.94	12/02/13
2012	155,346	190,050	gw	81.74	
2011	195,049	190,050	gw	102.63	
2010	152,743	190,050	gw	80.37	
2009	158,221	190,050	gw	83.25	
2008	165,461	127,000	gw	130.28	
2007	136,382	127,000	gw	107.39	
2006	80,293	127,000	gw	63.22	
2005	46,844	None	gw		
2004	47,848	None	gw		

Source: SERO ACL Monitoring Webpage.

Two projection models were fit to the data: (1) mean catch rates 2014-2016 ("Last 3") and (2) a SARIMA model. Under **Alternative 1 (No Action),** with a January-April closure, 50% of the commercial ACL (164,000 lbs ww) is projected to be caught by August (95% CI: July-Dec) or Sept (95% CI: June-No closure) by the Last 3 and SARIMA models, respectively (**Figure 2.1: left**).

Without a January-April closure, 50% of the ACL is projected to be caught by May (95% CI: Apr-July) or July (95% CI: Feb-Dec 31) by the Last 3 and SARIMA models, respectively (**Figure 2.1: right**). The wide confidence intervals for these projections indicate the substantial uncertainty in the predictions, especially for the impacts of removing the January-April closure, which has been in place since 2000 (Amendment 9; SAFMC 1998).

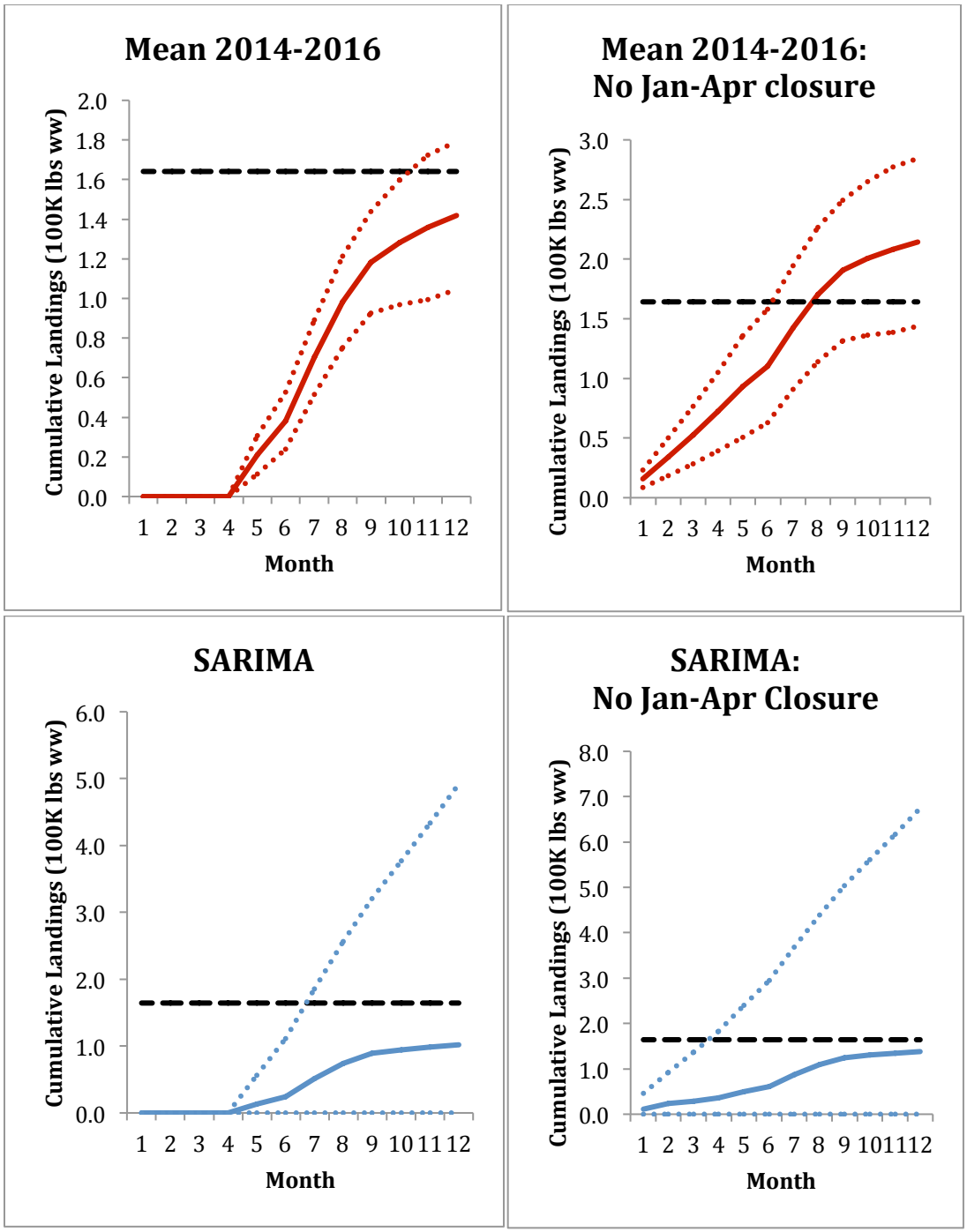


Figure 2.1. Mean (solid line) and 95% confidence limits (dotted lines) for red porgy projected cumulative landings relative to ACL (dashed line), with and without Jan-Apr closure, for two projection models: Mean of last 3 years (2014-2016) and SARIMA.

Mean monthly estimates of commercial discards for the affected species in this amendment, including red porgy, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. Red porgy discards from 2014 through 2016 were high

during the spawning season closure (January through April) with a peak in February. Eighty-two percent of annual red porgy discards were during January-April. High discards were also observed in August, possibly tied to harvest of vermilion and gray triggerfish.

In the South Atlantic, red porgy spawn from January through May and spawning activity peaks from January through March (**Table 1.2**); hence, the current January-April prohibition on commercial harvest captures the majority of the spawning season for this species. However, during this time, harvest for other two co-occurring species, vermilion snapper and gray triggerfish, is open. Consequently, fishermen report high numbers of red porgy discards during this time period, as evidenced in **Table 1.3**. The discard mortality rate applied to the commercial fleet in the latest update assessment (SEDAR 1 2012 Update) was 35%. Thus it appears that the current spawning season closure may not be effectively protecting spawning fish due to concurrent harvest of co-occurring species. As mentioned above, however, there is considerable uncertainty in predicting the effects of removing the closure on the level of commercial catch. Based on the current analysis, the commercial ACL might be reached near the beginning of Season 2 (**Figure 2.1**). Under that scenario, discards of red porgy could continue after the fishery closes if harvests of vermilion snapper and gray triggerfish are ongoing. Unless a commercial split season were to significantly reduce the level of red porgy discards, the biological impacts of a split season for red porgy are likely to be neutral since overall harvest would be limited to the sector ACL and split-season quotas, and AMs would be triggered if the ACL or quotas were exceeded.

2.2 Economic Effects

To be completed.

2.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of red porgy is included in **Section 3.4** (in draft document). Red porgy is under restrictive catch limits, and a split season under **Alternatives 2** and **3** may help to extend commercial harvest longer than under **Alternative 1 (No Action)**. The benefits of the split season would depend on the ACL and the rate of harvest, along with the harvest limit for January 1- April 30.

Overall, the positive and negative effects on commercial fishermen of establishing a split season under **Alternatives 2** and **3** will depend on the proportion of the ACL for each season, the length of each season, and the likelihood of commercial harvest being open during times of the year when it is profitable to target red porgy. Maintaining the current restricted harvest limit for January 1- April 30 under **Alternative 2** may reduce some of the benefits to the commercial fleet, but will also slow the rate of harvest for season 1 more so that the harvest limit under **Alternative 3**.

2.4 Administrative Effects

Of the three alternatives considered for management of red porgy, **Alternatives 2** and **3** would impose the most significant, direct administrative burden. Ongoing monitoring of the new annual commercial quota would be required. However, if the quota for each season is close to

being met or exceeded twice each year, fishery managers will have to prepare and issue fishery closure notices twice as often as they would be required to do under **Alternative 1 (No Action)**. Additionally, enforcement personnel would be burdened with an increase in potential fishery closures, which they would have to monitor. Outreach materials would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. As with **Alternative 1 (No Action),** there is twice the potential under **Alternatives 2** and **3** that the fishery would need to be reopened so that landings could reach the ACL.

Committee Action:

Action 2. Establish a commercial split season for red porgy

Alternative 1 (No Action). The commercial fishing year for red porgy in the South Atlantic federal waters is from January 1 to December 31. During January, February, March, and April, the seasonal harvest limit of red porgy in or from South Atlantic federal waters is three per person per day or three per person per trip, whichever is more restrictive. From May 1 through December 31, the trip limit is 120 fish.

Alternative 2. Maintain the annual January 1 to April 30 seasonal harvest limit for red porgy.

Sub-Alternative 2a. Allocate the directed commercial red porgy 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 quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward.

Sub-alternative 2b. Allocate the directed commercial red porgy ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

Alternative 3. Remove the annual January 1 to April 30 seasonal harvest limit for red porgy.

Sub-Alternative 3a. Allocate the directed commercial red porgy 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 quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward.

Sub-Alternative 3b. Allocate the directed commercial red porgy ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

IPT Input:

- Consider the following from SEDAR 1 Update (2012): *In the terminal 5 years of the assessment, the stock seems to have ceased rebuilding or perhaps even declined slightly. The increase in stock status in the early 2000s appears to have been initiated by strong recruitment events in 2002 and 2005 and a severe reduction in fishing mortality beginning in 2000. The more recent trend of stabilization appears to be supported by below average recruitment and modest increases in fishing mortality since approximately 2007. Base-run estimates of spawning biomass have remained near 50% SSB_{MSY} since approximately 2006. Current stock status was estimated in the base run to be $SSB_{2011}/MSST = 0.61$ and $SSB_{2011}/SSB_{MSY} = 0.47$ (Table 17), indicating that the stock remains in an overfished state.*
  http://sedarweb.org/docs/suar/2012_SARPUpdate_Revised.pdf
- Define/clarify percentages for quotas and months within alternatives?

Snapper Grouper AP input:

- Discard issue exists but there is also a market issue. Red porgy is important for the market when vermilion snapper and gray triggerfish close.
- Concern about moving forward with management changes ahead of the stock assessment.
- Consider trip limit modification to address discards and still consider split season. Consider a low trip limit (bycatch allowance) when vermilion and triggerfish are still open.
- MOTION: CONSIDER TRIP LIMIT MODIFICATION TO ADDRESS DISCARDS AND STILL CONSIDER SPLIT SEASON. ANALYZE A RANGE OF TRIP LIMIT OPTIONS: 30 FISH TO 60 FISH IN SEASON 1 (DURING THE MONTHS OF THE SPAWNING CLOSURE).
  APPROVED (UNANIMOUSLY)

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 3. Establish a commercial split season for snowy grouper

Alternative 1 (No Action). The commercial fishing year for snowy grouper in the South Atlantic federal waters is from January 1 to December 31.

Alternative 2. Specify two commercial fishing seasons for snowy grouper. Allocate the snowy grouper commercial ACL into two quotas: XX% to the period January 1 through June 30 and YY% 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.

Alternative 3. Specify two commercial fishing seasons for snowy grouper. Allocate the snowy grouper commercial ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

Preliminary Effects Analysis:

3.1 Biological Effects

It is difficult to evaluate the alternatives given the unspecified percentages for diving the commercial ACL into seasonal quotas. Similar to blueline tilefish (Action 1), commercial landings data were converted to daily catch rates within months for 1997-2016. There have been several recent quota closures for snowy grouper (**Table 3.1**).

Table 3.1. Snowy grouper recent landings (lbs) and quota closures.

Year	Landings	ACL	Units	%ACL	Closure
2016	46,615	125,760	gw	116.58	6/14/2016
2015	125,777	115,451	gw	108.94	9/22/2015
2014	92,101	82,900	gw	111.1	7/25/2014
2013	79,479	82,900	gw	95.87	8/10/2013
2012	89,048	82,900	gw	107.42	12/19/2012
2011	37,338	82,900	gw	45.04	
2010	86,693	82,900	gw	104.58	
2009	75,614	82,900	gw	91.21	
2008	72,774	84,000	gw	86.64	
2007	111,994	118,000	gw	94.91	
2006	213,813	151,000	gw	141.6	10/23/2006
2005	206,638	344,508	gw	59.98	
2004	220,958	344,508	gw	64.14	

Source: SERO ACL Monitoring Webpage.

The numerous recent changes in trip limits and other regulations for snowy grouper likely make past data a poor predictor of future trends. Two projection models were fit to the data: (1)

mean catch rates 2014-2016 ("Last 3") and (2) a SARIMA model. Under **Alternative 1 (No Action)**, the ACL is anticipated to be met by September (95% CI: June-No Closure) or March (95% CI: Feb-Nov) by the Last 3 and SARIMA models, respectively (**Figure 3.1**). The Last 3 model predicts 50% of the ACL will be achieved by May (95% CI: Apr-Sept); the SARIMA model predicts 50% of the ACL will be met by Feb (95% CI: Jan-July). The broad confidence intervals for these predictions and the recent changes in the trip limit indicate high uncertainty in these predictions and they should be interpreted with caution.

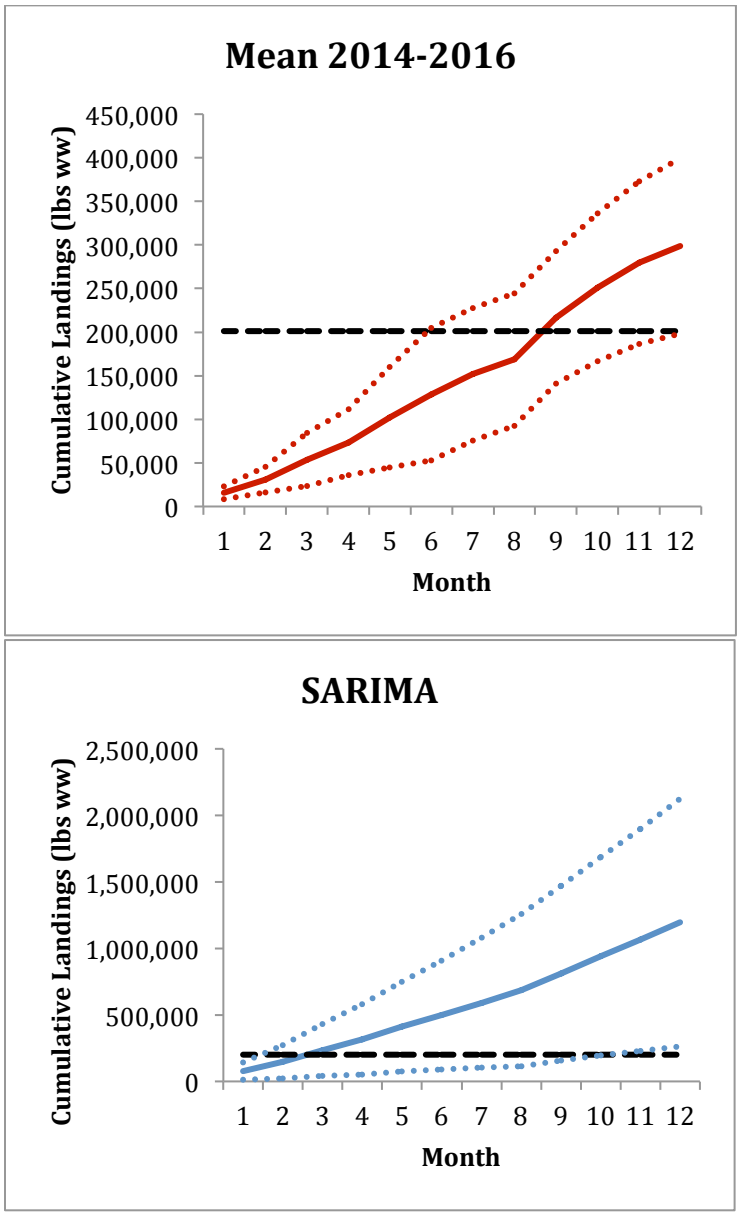


Figure 3.1. Mean (solid line) and 95% confidence limits (dotted lines) for snowy grouper projected cumulative landings under Alternative 1 (No Action) relative to ACL (dashed line) under two projection models: Mean of last 3 years (2014-2016) and SARIMA.

Mean monthly estimates of commercial discards for the affected species in this amendment, including snowy grouper, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. Discarding in the commercial harvest of snowy grouper in 2014 through 2016 appears to have been comparatively low to other species in the snapper grouper complex with no discernible monthly peaks. In general, the biological impacts of a split season for snowy grouper are likely to be neutral since overall harvest would be limited to the sector ACL and split-season quotas, AMs would be triggered if the ACL or quotas were exceeded, and the level of discards would likely not be affected.

Table 1.2 indicates spawning activity for snowy grouper peaks during summer months (May-August). In recent years, early quota closures have reduced fishing pressure on snowy grouper during peak spawning months resulting in positive biological effects.

Discards of snowy grouper and co-occurring species, such as blueline tilefish, might be expected after quotas are met under **Alternative 2** and **Alternative 3**. However, an increase in bycatch of both blueline tilefish and snowy grouper could be reduced if commercial split seasons coincide (blueline tilefish commercial split season is considered under **Action 1**).

3.2 Economic Effects

To be completed.

3.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of snowy grouper is included in **Section 3.4** (in draft document). A split season under **Alternatives 2** and **3** may help to extend commercial harvest longer than under **Alternative 1 (No Action)**. In general, a split season (**Alternatives 2** and **3**) would be most beneficial for fishermen targeting other species in the beginning of the year, because it would ensure that a portion of the commercial ACL would be available later in the year. Establishing a split season under **Alternatives 2** and **3** could result in fishermen shifting effort to or from a certain species (including targets on multi-species trips) based on economic, regulatory, biological, or environmental changes in the fishery resulting from changes in access to snowy grouper

Overall, the positive and negative effects on commercial fishermen of establishing a split season under **Alternatives 2** and **3** will depend on the proportion of the ACL for each season, the length of each season, and the likelihood of commercial harvest being open during times of the year when it is profitable to target snowy grouper.

3.4 Administrative Effects

Of the three alternatives considered for management of snowy grouper, **Alternatives 2** and **3** would impose the most significant, direct administrative burden. Ongoing monitoring of the new annual commercial quota would be required. If the quota for each season is close to being met or exceeded twice each year, fishery managers will have to prepare and issue fishery closure notices twice as often as they would be required to do under **Alternative 1 (No Action)**. Additionally,

enforcement personnel would be burdened with an increase in potential fishery closures, which they would have to monitor. Outreach materials would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. As with **Alternative 1 (No Action),** there is twice the potential under **Alternatives 2** and **3** that the fishery would need to be reopened so that landings could reach the ACL.

Committee Action:

Action 3. Establish a commercial split season for snowy grouper
Alternative 1 (No Action). The commercial fishing year for snowy grouper in the South Atlantic federal waters is from January 1 to December 31.

Alternative 2. Specify two commercial fishing seasons for snowy grouper. Allocate the snowy grouper commercial ACL into two quotas: XX% to the period January 1 through June 30 and YY% 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.

Alternative 3. Specify two commercial fishing seasons for snowy grouper. Allocate the snowy grouper commercial ACL into two quotas: XX% to the period January 1 through _____ and YY% to the period ____ 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.

IPT input:

- Define/clarify percentages for quotas and months within alternatives
- Spawning activity for snowy grouper peaks during summer months (May-August). In recent years, early quota closures have reduced fishing pressure on snowy grouper during peak spawning months.

Snapper Grouper AP input:

- AP reiterates that snowy and blueline seasons, if implemented, should be in line.
- MOTION: CONSIDER A TRIP LIMIT STEP-DOWN/REDUCTION IN THE SNOWY AND BLUELINE TRIP LIMITS TO COINCIDE WITH OPENING OF SHALLOW-WATER GROUPER ON MAY 1. CONSIDER OTHER OPTIONS TO LENGTHEN SEASON (INCLUDING STEP-DOWN WHEN A CERTAIN PERCENTAGE OF THE ACL IS MET).
  APPROVED (UNANIMOUSLY)

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 4. Establish a commercial split season for greater amberjack

Alternative 1 (No Action). The commercial fishing year for greater amberjack in the South Atlantic federal waters is from March 1 to the end of February. During April, commercial harvest is limited to one per person per day or one per person per trip, whichever is more restrictive.

Alternative 2. Specify two commercial fishing seasons for greater amberjack. Allocate the commercial ACL for greater amberjack into two quotas: XX% to the period March 1 through August 31 and YY% to the period September 1 through the end of February. Any remaining quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward. Commercial harvest would still be prohibited annually in April.

Alternative 3. Specify two commercial fishing seasons for greater amberjack. Allocate the commercial ACL for greater amberjack into two quotas: XX% to the period March 1 through _____ and YY% to the period _____ through the end of February. Any remaining quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward. Commercial harvest would still be prohibited annually in April.

Preliminary Effects Analysis:

4.1 Biological Effects

It is difficult to evaluate the alternatives given the unspecified percentages for diving the commercial ACL into seasonal quotas. Similar to blueline tilefish (Action 1) commercial landings data were converted to daily catch rates within months for 1997-2016. There have been several recent quota closures for greater amberjack (**Table 4.1**). There is a seasonal harvest restriction during the month of April.

Table 4.1. Greater amberjack recent landings (lbs) and quota closures.

Fishing Year	Total Landings	ACL	Units	ACL	Closure Date
March 1, 2017 – February 28, 2018	187,007	769,388	gw	24.31	April 1-30 Seasonal
March 1, 2016 – February 28, 2017	748,950	769,388	gw	97.34	April 1-30 Seasonal In-season 10/4/2016
March 1, 2015 - Feb 28, 2016	757,881	769,388	gw	98.5	April 1-30 Seasonal In-season 1/21/2016
May 1, 2014 - Feb 28, 2015	594,624	769,388	gw	77.29	April 1-30 Seasonal
May 1, 2013 - April 30, 2014	842,234	800,163	ww	105.26	April 1-30 Seasonal
May 1, 2012 - April 30, 2013	826,018	800,163	ww	103.23	April 1-30 Seasonal
May 1, 2011 - April 30, 2012	1,032,080	1,169,931	gw	88.22	April 1-30 Seasonal

May 1, 2010 - April 30, 2011	857,839	1,169,931	gw	73.32	April 1-30 Seasonal
May 1, 2009 - April 30, 2010	837,077	1,169,931	gw	71.55	April 1-30 Seasonal
May 1, 2008 - April 30, 2009	648,247	1,169,931	gw	55.41	April 1-30 Seasonal
May 1, 2007 - April 30, 2008	542,438	1,169,931	gw	46.36	April 1-30 Seasonal

Source: SERO ACL Monitoring Webpage.

Two projection models were fit to the data: (1) mean catch rates 2014-2016 ("Last 3") and (2) a SARIMA model fit to data from 1997-2016. Under **Alternative 1 (No Action)**, the ACL is anticipated to be met by Nov (95% CI: Sept-No Closure) or July (95% CI: Feb-No Closure) by the Last 3 and SARIMA models, respectively (**Figure 4.1**). The Last 3 model predicts 50% of the ACL will be achieved by June (95% CI: May-July); the SARIMA model predicts 50% of the ACL will be met by May (95% CI: Mar-Not Met). The broad confidence intervals indicate high uncertainty and these predictions should be interpreted with caution.

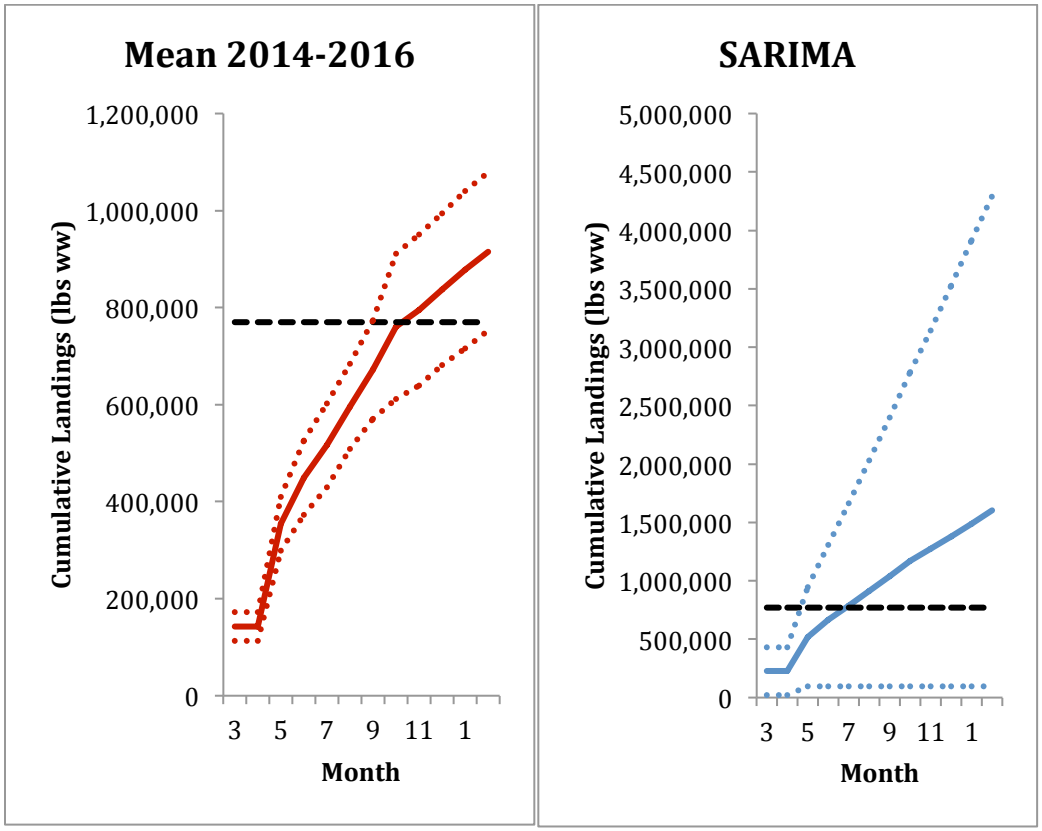


Figure 4.1. Mean (solid line) and 95% confidence limits (dotted lines) for greater amberjack projected cumulative landings relative to ACL under two projection models: Mean of last 3 years (2014-2016) and SARIMA.

Mean monthly estimates of commercial discards for the affected species in this amendment, including greater amberjack, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. From 2014 through 2016 discards of greater amberjack have been highest from May through August peaking in June. It is unclear whether the level of discards would be affected if a split season were to be imposed. In general, the biological impacts of a split season for greater amberjack are likely to be neutral since overall harvest would be limited to the sector ACL and split-season quotas and AMs would be triggered if the ACL or quotas were exceeded.

4.2 Economic Effects

To be completed

4.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of greater amberjack is included in **Section 3.4** (in draft document). A split season under **Alternatives 2** and **3** may help to extend commercial harvest longer than under **Alternative 1 (No Action)**. In general, a split season (**Alternatives 2** and **3**) would be most beneficial for fishermen targeting other species in the beginning of the year, because it would ensure that a portion of the commercial ACL would be available later in the year. Establishing a split season under **Alternatives 2** and **3** could result in fishermen shifting effort to or from a certain species (including targets on multi-species trips) based on economic, regulatory, biological, or environmental changes in the fishery resulting from changes in access to greater amberjack.

Overall, the positive and negative effects on commercial fishermen of establishing a split season under **Alternatives 2** and **3** will depend on the proportion of the ACL for each season, the length of each season, and the likelihood of commercial harvest being open during times of the year when it is profitable to target greater amberjack.

4.4 Administrative Effects

Of the three alternatives considered for management of greater amberjack, **Alternatives 2** and **3** would impose the most significant, direct administrative burden. Ongoing monitoring of the new annual commercial quota would be required. If the quota for each season is close to being met or exceeded twice each year, fishery managers will have to prepare and issue fishery closure notices twice as often as they would be required to do under **Alternative 1 (No Action)**. Additionally, enforcement personnel would be burdened with an increase in potential fishery closures, which they would have to monitor. Outreach materials would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. As with **Alternative 1 (No Action),** there is twice the potential under **Alternatives 2** and **3** that the fishery would need to be reopened so that landings could reach the ACL.

Committee Action:

Action 4. Establish a commercial split season for greater amberjack

Alternative 1 (No Action). The commercial fishing year for greater amberjack in the South Atlantic federal waters is from March 1 to the end of February. During April, commercial harvest is limited to one per person per day or one per person per trip, whichever is more restrictive.

Alternative 2. Specify two commercial fishing seasons for greater amberjack. Allocate the commercial ACL for greater amberjack into two quotas: XX% to the period March 1 through August 31 and YY% to the period September 1 through the end of February. Any remaining quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward. ~~Commercial harvest would still be prohibited annually in April.~~

Alternative 3. Specify two commercial fishing seasons for greater amberjack. Allocate the commercial ACL for greater amberjack into two quotas: XX% to the period March 1 through _____ and YY% to the period _____ through the end of February. Any remaining quota from Season 1 would transfer to Season 2. Any remaining quota from Season 2 would not be carried forward. ~~Commercial harvest would still be prohibited annually in April.~~

IPT input:

- Define/clarify percentages for quotas and months within alternatives
- Consider extending seasonal restriction to cover all peak spawning (April & May)?

Snapper Grouper AP input:

- AP supports exploring use of commercial split season to lengthen amberjack harvest.
- Consider trip limit reduction or step-down to achieve objective of lengthening season and improving access.

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 5. Modify the commercial trip limit for vermilion snapper in the second season

Alternative 1 (No Action). The commercial trip limit for vermilion snapper in the South Atlantic federal waters is 1,000 pounds gutted weight (lbs gw) and the commercial ACL is split equally between two six-month seasons. For both seasons, when 75% of the vermilion snapper seasonal quota is met or is projected to be met, the trip limit is reduced to 500 lbs gw. Any remaining quota from Season 1 transfers to Season 2. Any remaining quota from Season 2 is not carried forward.

Alternative 2. Implement a 750 lbs gw vermilion snapper commercial trip limit for the second season (July 1 through December 31). The commercial trip limit is reduced to 500 lbs gw when 75% of the second season quota is met or is projected to be met.

Alternative 3. Remove the step-down to 500 lbs gw when 75% of the seasonal quota is met or projected to be met, and implement a 500 lbs gw vermilion snapper commercial trip limit for the second season (July 1 through December 31).

Preliminary Effects Analysis:

5.1 Biological Effects

To project baseline landings in 2018, commercial landings data were converted to daily catch rates within months for 1997-2016. There have been several recent quota closures for vermilion snapper (**Table 5.1**). Two projection models were fit to the data: (1) mean catch rates 2014-2016 ("Last 3") and (2) a SARIMA model fir to data from 1997-2016.

Trip limit impacts were simulated by modifying and re-summarizing landings from commercial logbook trip records (SEFSC commercial logbook data, accessed April 2017). Daily catches were projected for Season 1 and Season 2 using projected monthly catch rates. Cumulative landings were tracked and trip limits were applied to scale monthly catch rates when 75% of the ACL was met. For Season 1, the ACL is anticipated to be met by March (95% CI: Mar-Apr) or April (95% CI: Feb-June) by the Last 3 and SARIMA models, respectively. Projected trip limit reduction dates and closure dates for Season 2 are provided in **Table 5.2**. Last 3 and SARIMA model projections were relatively consistent, indicating fairly high confidence in projected closure dates (**Figure 5.1**).

Table 5.1. Vermilion snapper recent landings (lbs) and quota closures. Source: SERO ACL Monitoring Webpage.

Fishing Year	Landings	ACL	Units	ACL	Trip Limit	Closure
January 1 -June 30, 2017	350,609	431,460	ww	81.26	3/22/2017	
July 1 - Dec 31, 2017	0	431,460		0		
January 1 - June 30, 2016	429,774	431,460	ww	99.61	3/2/2016	3/29/2016
July 1 - Dec 31, 2016	425,014	432,305		98.31	8/28/2016	10/11/16; reopened 12/14-12/15/16
Jan 1 - June 30, 2015	435,435	438,260	ww	99.69	3/2/2015	4/15/2015
July 1 - Dec 31, 2015	457,259	438,260		104.3	9/10/2015	9/22/2015
Jan 1 - June 30, 2014	454,084	446,080		101.8	3/11/2014	4/19/2014
July 1 - Dec 31, 2014	437,523	446,080		98.08	8/23/2014	9/12/2014
Jan 1 - June 30, 2013	304,432	466,480		65.26		2/13/2013
July 1 - Dec 31, 2013	623,347	613,278		101.6		12/2/2013
Jan 1 - June 30, 2012	400,787	315,523	gw	127		2/29/2012
July 1 - Dec 31, 2012	504,525	302,523		166.8		9/28/2012
Jan 1 - June 30, 2011	333,001	315,523		105.5		3/10/11; Re-opened 5/1/11-5/8/11
July 1 - Dec 31, 2011	591,067	302,523		195.4		9/30/2011
Jan 1 - June 30, 2010	360,065	315,523		114.1		3/19/2010
July 1 - Dec 31, 2010	524,797	302,523		173.5		10/6/2010
Jan 1 - June 30, 2009	425,665	315,523		134.9		
July 1 - Dec 31, 2009	409,858	302,523		135.5		9/18/2009
Jan 1 - Dec 31, 2008	1,112,224	1,100,000		101.1		
	981,369	1,100,000		89.22		
	772,496	1,100,000		70.23		
	1,029,081	None				
	1,017,889	None				

Table 5.2. Projected mean and 95% lower and upper (L95, U95) confidence limits trip limit reduction and quota closure dates for vermilion snapper under different alternatives proposed for Action 5.

	TRIP LIMIT REDUCED					
	Last 3 Years			**SARIMA**		
Alternative	L95_Last3	**Last3**	U95_Last3	L95_SARIMA	**SARIMA**	U95_SARIMA
1	18-Sep	**25-Aug**	13-Aug	4-Oct	**22-Aug**	4-Aug
2	28-Sep	**1-Sep**	18-Aug	18-Oct	**30-Aug**	9-Aug
3	NA	**NA**	NA	NA	**NA**	NA
	FISHERY CLOSED					
	Last 3 Years			**SARIMA**		
Alternative	L95_Last3	**Last3**	U95_Last3	L95_SARIMA	**SARIMA**	U95_SARIMA
1	25-Oct	**16-Sep**	30-Aug		**15-Sep**	23-Aug
2	8-Nov	**23-Sep**	4-Sep		**23-Sep**	28-Aug
3	12-Dec	**11-Oct**	17-Sep		**10-Oct**	9-Sep

Under **Alternative 1 (No Action),** both models predict that 75% of the Season 2 quota would be met towards the end of August triggering a trip limit step down to 500 lbs gw. At that level of harvest, both models predict the Season 2 quota would be reached by mid-September. Under **Alternative 2**, a 750 lbs gw trip limit would trigger a step-down at the end of August or beginning of September. The Season 2 quota would be harvested by September 23, according to both models. These predictions are similar to what has been observed in recent years: in 2014 and 2016, the trip-limit step-down was triggered at the end of August whereas in 2015 it occurred on September 10 (**Table 5.1**).

Alternative 3 would remove the step-down and implement a 500-pound trip limit in Season 2. This alternative is predicted to allow commercial harvest to continue until early October. Hence, the trip limit proposed under **Alternative 3** would allow commercial harvest to continue over the longest period of time than under the current trip limit or that proposed under **Alternative 2**.

Mean monthly estimates of commercial discards for the affected species in this amendment, including vermilion snapper, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. During 2014 through 2016 vermilion snapper discards peaked in November and December, when commercial harvest for the species had closed due to reaching the ACL. High discard numbers were also observed in May.

In general, trip limits result in neutral biological effects since overall harvest is limited by the ACL, and AMs are in place to correct for overages. Peak spawning activity for vermilion snapper is from June through August (**Table 1.2**). The second commercial season beginning in the June-August period increases effort during the period of peak spawning, which could negatively impact stock sustainability. A trip limit reduction in the second season, as proposed under **Alternatives 2** and **3**, could benefit the spawning stock by reducing landings on trips fishing on a spawning group.

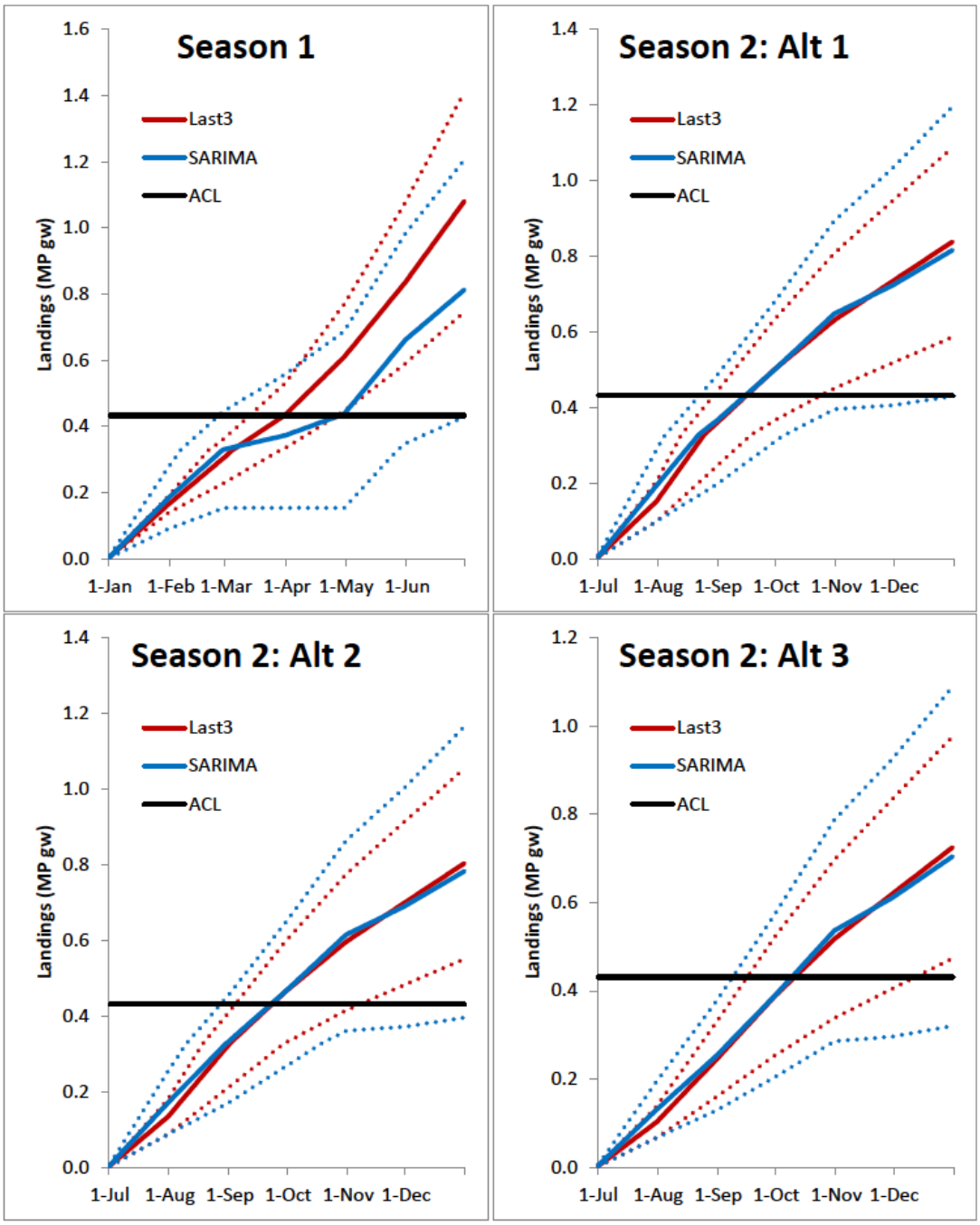


Figure 5.1. Mean (solid line) and 95% confidence limits (dotted lines) for vermilion snapper projected cumulative landings relative to ACL (black line) under two projection models: Mean of last 3 years (2014-2016) and SARIMA.

5.2 Economic Effects

To be completed

5.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of vermilion snapper is included in **Section 3.4** (in draft document). 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. A longer open season could be beneficial to the commercial fleet and to end users of vermilion snapper (restaurant owners, fish houses, and consumers) by improving consistency of availability. However, **Table 5.2** suggests that there would likely be little difference between expected closures dates under **Alternative 1 (No Action), Alternative 2** or **Alternative 3**. Under current fishery conditions, it is likely that the current and proposed trip limits for season 2 will still result in a closure in late September or early October. Therefore, it is likely that the most benefits to the commercial fleet would be to keep the highest trip limit under **Alternative 1 (No Action).**

5.4 Administrative Effects

Of the three alternatives considered for management of vermilion snapper, **Alternative 1 (No Action)** would impose the most significant, direct administrative burden. Ongoing monitoring of the commercial quota over two seasons would be required. Over the course of a given fishing year, and a split season ACL, there is potential under **Alternative 1 (No Action**), for a total of six in-season notices (i.e., trip limit reduction notice, closure notice, and reopening notice for two seasons) that would need to be prepared by fishery managers. If the quota for each season is close to being met or exceeded twice each year, fishery managers will have to prepare and issue fishery closure notices potentially more often as they would be required to do under **Alternatives 2** and **3**. Additionally, enforcement personnel would be burdened with more frequent potential fishery closures, which they would have to monitor. Outreach materials would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. **Alternative 1 (No Action)** and **Alternative 2** would have higher potential than **Alternative 3** that the fishery would need to be reopened if landings had not reached 100% of the ACL.

Committee Action:

Action 5. Modify the commercial trip limit for vermilion snapper in the second season

Alternative 1 (No Action). The commercial trip limit for vermilion snapper in the South Atlantic federal waters is 1,000 pounds gutted weight (lbs gw) and the commercial ACL is split equally between two 6-month seasons. When 75% of the vermilion snapper seasonal quota is met or is projected to be met, the trip limit is reduced to 500 lbs gw. Any remaining quota from Season 1 transfers to Season 2. Any remaining quota from Season 2 is not carried forward.

Alternative 2. Retain the management measures in the first season (January 1 through June 30). For the second season (July 1 through December 31), change the commercial trip limit to 750 pounds gutted weight and retain the trip limit step down to 500 pounds gutted weight when 75% of the second season quota is met or projected to be met. ~~Implement a 750 lbs gw vermilion snapper commercial trip limit for the second season (July 1 through December 31). The commercial trip limit is reduced to 500 lbs gw when 75% of the second season quota is met or is projected to be met.~~

Alternative 3. Retain the management measures in the first season (January 1 through June 30). For the second season (July 1 through December 31), change the commercial trip limit to 500 pounds gutted weight and remove the trip limit step down to 500 pounds gutted when 75% of the seasonal quota is met or projected to be met. ~~Remove the step-down to 500 lbs gw when 75% of the seasonal quota is met or projected to be met, and implement a 500 lbs gw vermilion snapper commercial trip limit for the second season (July 1 through December 31).~~

IPT input:

- In 2016: first season step-down on 3/2/16 and closed 3/29/16, second season step-down 8/28/16, closed 10/11/16. Therefore, step-down alternatives may be inadequate to promote season remaining open.
- Lower trip limit allows longer season and retention of what would otherwise be bycatch.
- Step-downs add administrative burden and are subject to uncertainty.
- If the objective is to keep fishery open, then consider a lower trip limit and no step-down. Is the goal to align seasons for gray triggerfish, vermilion snapper, and red porgy?

Snapper Grouper AP input:

- AP supports exploring alternatives as presented.
- Perhaps also consider trip limit reduction in first season as well (although some AP members stated concern about weather being a factor in some areas that would disadvantage some fishermen at a lower trip limit than the current one. Also there are not that many species available for market during first season).
- MOTION: AP RECOMMENDS ALTERNATIVE 2

  Alternative 2. Implement a 750 lbs gw vermilion snapper commercial trip limit for the second season (July 1 through December 31). The commercial trip limit is reduced to 500 lbs gw when 75% of the second season quota is met or is projected to be met.

APPROVED (2 ABSTENTIONS)

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 6. Implement a commercial trip limit for the Other Jacks Complex

Alternative 1 (No Action). There is no commercial trip limit for the Other Jacks Complex (lesser amberjack, almaco jack, and banded rudderfish).

Alternative 2. Establish a commercial trip limit for the Other Jacks Complex.
Sub-alternative 2a. 500 pounds whole weight (lbs ww)
Sub-alternative 2b. 400 lbs ww
Sub-alternative 2c. 300 lbs ww

Alternative 3. Establish a commercial trip limit for almaco jack.
Sub-alternative 3a. 500 lbs ww
Sub-alternative 3b. 400 lbs ww
Sub-alternative 3c. 300 lbs ww

Preliminary Effects Analysis:

6.1 Biological Effects

The 'Other Jacks Complex' includes almaco jack, lesser amberjack, and banded rudderfish. Species groupings, or complexes, for species managed under the Snapper Grouper FMP were created with implementation of the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011). **Appendix O** of the Comprehensive ACL Amendment (SAFC 2011) contains the detailed methodology for the existing species groupings. The discussion pertaining to jacks, cites issues with misidentification potentially leading to "issues computing single species' ACLs unless the rate of misidentification is quantifiable or has been (and remains) constant through time. The use of a 'Jacks' complex would mitigate issues with species identification by regulating misidentified species together. These findings are reasonably consistent with Shertzer and Williams (2008); using hierarchical cluster analysis, they identified a complex including banded rudderfish and almaco jack in the headboat sector, and greater amberjack and almaco jack in the commercial sector." Furthermore, almaco jack was identified as the most vulnerable species in the Jacks Complex in analyses that supported the implementations of the various species complexes in the Comprehensive ACL amendment (SAFMC 2011).

To project baseline landings in 2018, commercial landings data were converted to daily catch rates within months for 1997-2016. There have been several recent quota closures for the Other Jacks Complex (**Table 6.1**). Two projection models were fit to the data: (1) mean catch rates 2014-2016 ("Last 3") and (2) a SARIMA model fit to landings from 1997-2016.

Projections were developed for the Other Jacks Complex, with **Alternative 3** almaco jack landings partitioned using the mean monthly ratio of almaco jack to Other Jacks Complex landings from the most recent three fishing years (**Figure 6.1**).

Table 6.1. Other Jacks Complex recent landings (lbs) and quota closures.

Fishing Year	Current Landings	ACL	Units	ACL (%)	Closure Date
2017	78,956	189,422	ww	41.68	
2016	206,726	189,422	ww	109.14	8/9/2016
2015	235,969	189,422	ww	124.57	6/23/2015
2014	212,474	189,422	ww	112.17	7/15/2014
2013	201,398	189,422	ww	106.32	6/18/2013
2012	333,561	193,999	ww	171.94	7/2/2012

Source: SERO ACL Monitoring Webpage.

Trip limit impacts were simulated by modifying and re-summarizing landings from commercial logbook trip records (SEFSC commercial logbook data, accessed April 2017). To predict closure dates for **Alternative 3** and its sub-alternatives, the trip limit reduction was applied to the almaco jack portion of the Other Jacks Complex landings, but closure dates were estimated based on the combined landings for the Complex relative to the Complex ACL.

Under **Alternative 1 (No Action)**, the ACL is anticipated to be met by July (95% CI: June-Dec) or June (95% CI: Apr-No Closure) by the Last 3 and SARIMA models, respectively (**Figure 6.2**). **Table 6.2** provides the projected mean and 95% confidence limits for quota closure dates under the various Action 6 alternatives. Although the predictions from the Last 3 model and SARIMA model are similar, the broad confidence intervals for these predictions suggest some uncertainty in these predictions and they should be interpreted with caution.

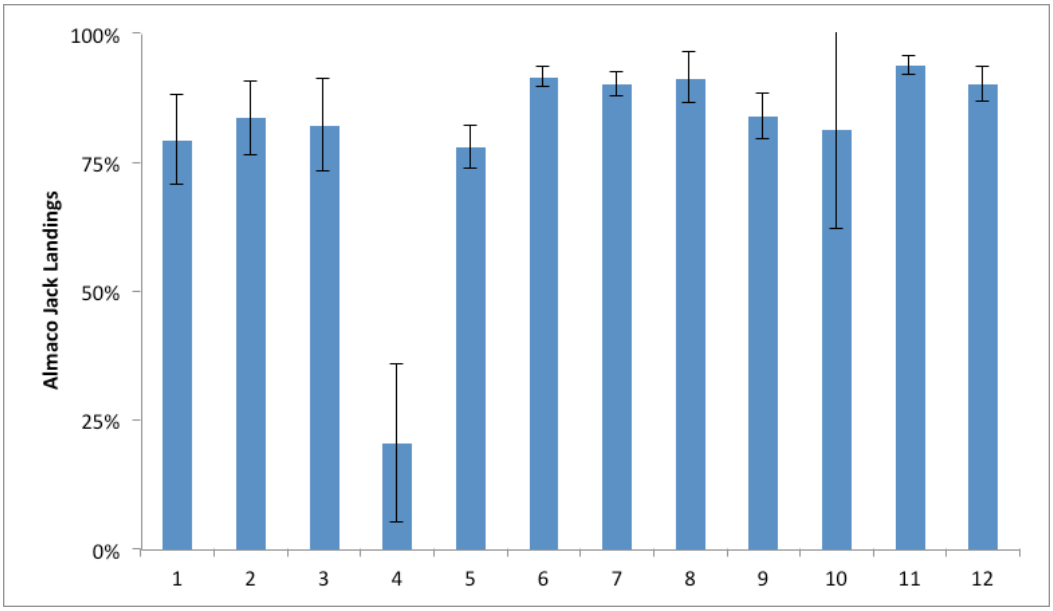


Figure 6.1. Monthly ratio of almaco jack to Other Jacks Complex commercial landings from the most recent three completely open fishing years. Error bars denote standard deviation.

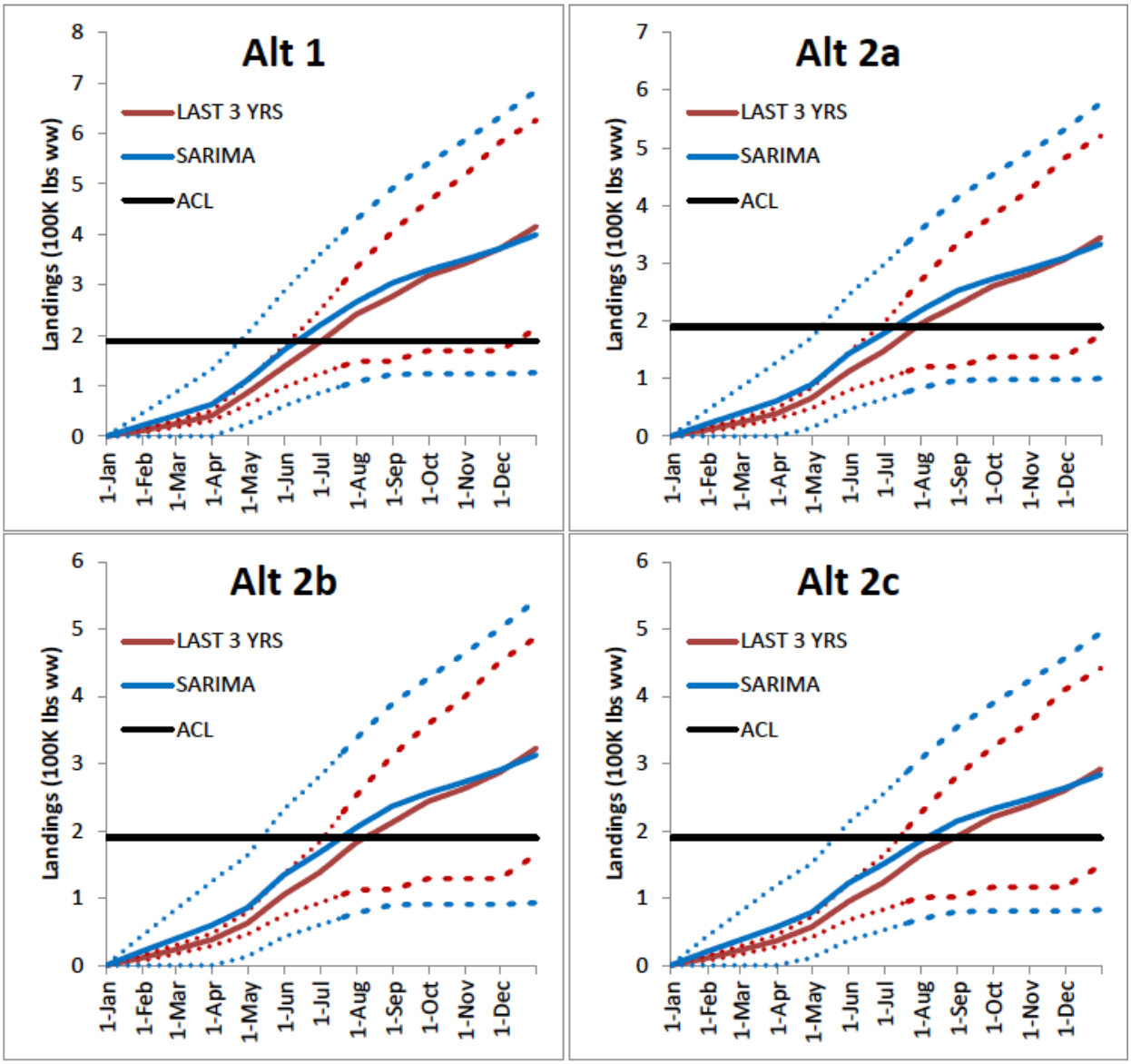


Figure 6.2. Mean (solid line) and 95% confidence limits (dotted lines) for Other Jacks Complex projected cumulative landings relative to ACL (black line) under two projection models: Mean of last 3 years (2014-2016) and SARIMA.

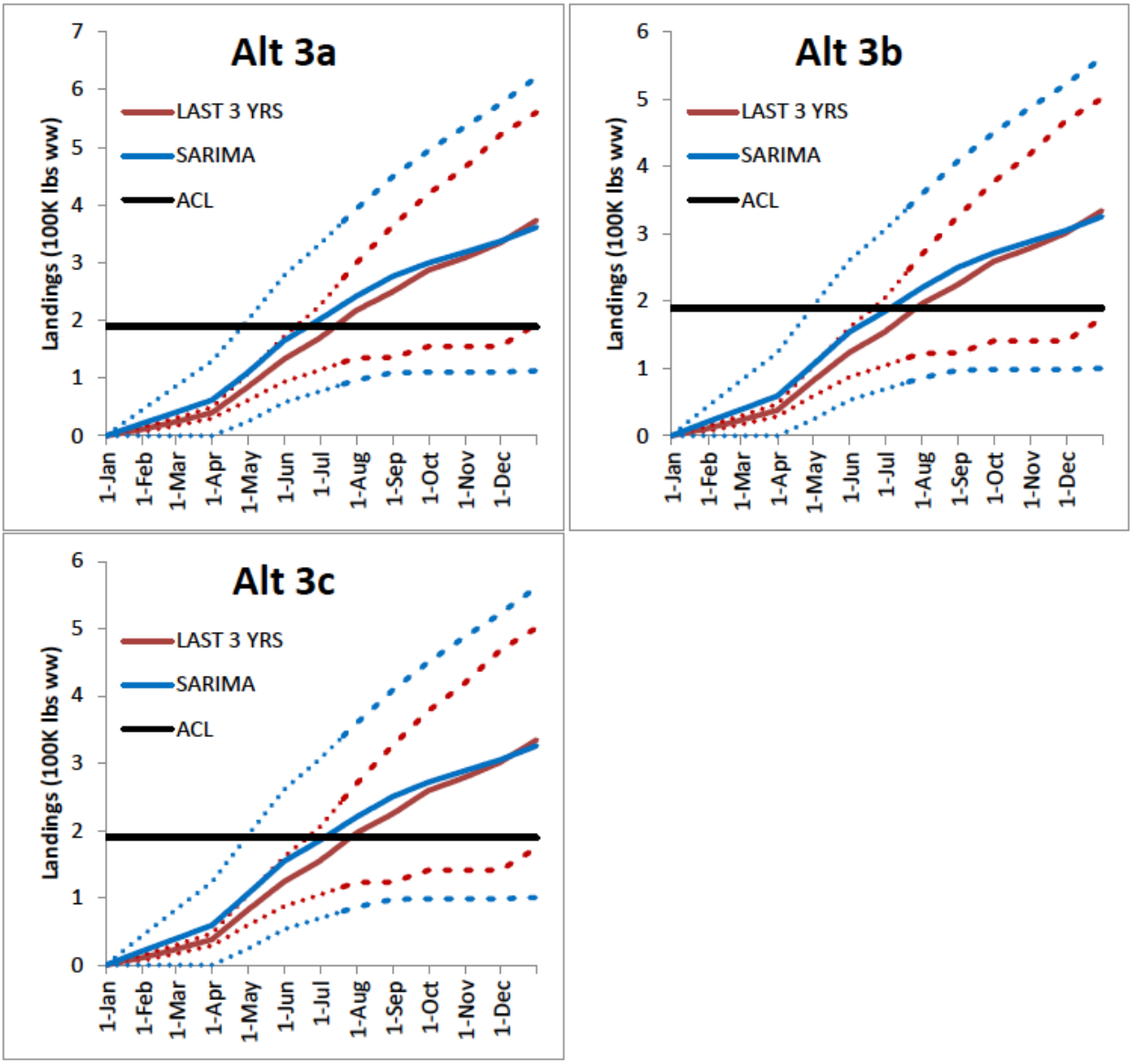


Figure 6.2 (cont'd). Mean (solid line) and 95% confidence limits (dotted lines) for Other Jacks Complex projected cumulative landings relative to ACL (black line) under two projection models: Mean of last 3 years (2014-2016) and SARIMA.

Table 6.2. Projected mean and 95% lower and upper (L95, U95) confidence limits for quota closure dates for Jacks complex under different alternatives proposed for Action 6.

	Last 3 Years			SARIMA		
Alt	**L95**	**Mean**	**U95**	**L95**	**Mean**	**U95**
1	14-Dec	3-Jul	5-Jun		12-Jun	24-Apr
2a		28-Jul	26-Jun		9-Jul	8-May
2b		8-Aug	3-Jul		19-Jul	12-May
2c		29-Aug	13-Jul		5-Aug	20-May
3a	28-Dec	14-Jul	11-Jun		21-Jun	26-Apr
3b		27-Jul	20-Jun		5-Jul	29-Apr
3c		27-Jul	20-Jun		5-Jul	29-Apr

From 2014 through 2016, the ACL for the Other Jacks Complex has been met from late June to early August (**Table 6.1**). Under the no trip limit scenario **(Alternative1 (No Action))**, the Last 3 model predicts the commercial ACL would be met in early July, whereas the SARIMA model predicts a closure in mid-June. **Alternative 2** and its sub-alternatives propose trip limits for the Other Jacks Complex. Under a 500 pound trip limit (**Sub-alternative 2a**) a closure would be expected to occur from early to late July according to the SARIMA and Last 3 models, respectively. These projected closure dates are within the range of observed fishery closures in 2014-2016, hence a 500-pound trip limit would not be expected to result in appreciable lengthening of the season.

A trip limit of 400 pounds (**Sub-alternative 2b**) would be expected to extend commercial harvest of species in the Other Jacks Complex through about mid-July (SARIMA model) or early August (Last 3 model). Similar to **Sub-alternative 2a**, **Sub-alternative 2b** would not be expected to lengthen the season to any degree above the status quo.

The proposed 300-pound trip limit under **Sub-alternative 2c** is predicted to extend commercial fishing to early August under the SARIMA model or late August under the Last 3 model. Even though the expected closure date of August 29 would extend fishing for about three weeks beyond status quo, the upper 95% confidence interval is July 13. Hence, **Sub-alternative 2c** may not result in significant lengthening of the fishing season for the Other Jacks Complex. Biological effects from any of the **Alternative 2** sub-alternatives relative to **Alternative 1 (No Action)** are expected to be neutral since overall harvest is limited by the ACL and accountability measures (AMs) are in place to correct for overages.

Alternative 3 and its sub-alternatives propose trip limits for almaco jack only. The species constitutes the majority (~70% +/- 6% annual 2014-2016) of the catch for the Other Jacks Complex (**Figure 6.2**). Given this, it is expected that predicted closure dates under trip limit alternatives for the Other Jack Complex (**Sub-alternatives 2a-2c**) and those for almaco jack (**Sub-alternatives 3a-3c**) would be similar. Indeed, the difference in predicted closure dates under **Sub-alternatives 2a** and **3a** is 14-18 days, 12-14 days for **Sub-alternatives 2b** and **3b**, and 31-33 days for **Sub-alternatives 3b** and **3c**. Similar to **Alternative 2** and its sub-

alternatives, **Alternative 3** and its sub-alternatives are expected to have neutral biological effects relative to **Alternative 1 (No Action)** since overall harvest is limited by the ACL and AMs are in place to correct for overages.

It is unclear why landings of almaco jack in April are low compared to other months (**Figure 6.1**). As noted above, the Other Jacks Complex was created due to suspected issues with species identification and because there are not enough data to conduct stock assessment of the component species to manage each one under its own ACL. Greater amberjack is an assessed species and is consequently managed under its own ACL. Commercial harvest of greater amberjack is limited during the month of April as this is when spawning activity for this species is at its peak (**Table 1.2**). It may be that low commercial landings of almaco jack during the month of April are related to the spawning season harvest limits for greater amberjack.

Mean monthly estimates of commercial discards for the affected species in this amendment, including those in the Other Jacks Complex, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. During 2014 through 2016, discard of specie sin the Other Jacks Complex (almaco jack, banded rudderfish, and lesser amberjack) were highest from August through October.

6.2 Economic Effects

To be completed

6.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of the jacks complex is included in **Section 3.4** (in draft document). 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. A longer open season could be beneficial to the commercial fleet and to end users of jacks (restaurant owners, fish houses, and consumers) by improving consistency of availability. However, **Table 6.2** suggests that there would likely be little difference between expected closures dates under **Alternative 1 (No Action), Alternative 2** or **Alternative 3**. Under current fishery conditions, it is likely that the current and proposed trip limits will still result in a closure in mid-summer. Therefore, it is likely that the most benefits to the commercial fleet would be to not set a trip limit under **Alternative 1 (No Action).**

6.4 Administrative Effects

Of the three alternatives considered for management of the Other Jacks Complex, **Alternative 1 (No Action)** would impose the most significant, direct administrative burden. Ongoing monitoring of the commercial quota would be required. Over the course of a given fishing year, there is potential under **Alternative 1 (No Action**), for a total of two in-season notices (i.e., closure notice, and reopening notice for two seasons) that would need to be prepared by fishery managers. If the quota for each season is close to being met or exceeded twice each year, fishery managers will have to prepare and issue fishery closure notices potentially more often as they would be required to do under **Alternative 2** and **3**. Additionally, enforcement personnel would be burdened with more frequent potential fishery closures, which

they would have to monitor. Outreach materials would take the form of fishery bulletins and possible updates to NOAA Fisheries Service Southeast Region's web site to modify the fishing year start date. **Alternative 1 (No Action)** and **Alternative 2** would have higher potential than **Alternative 3** that the fishery would need to be reopened if landings had not reached 100% of the ACL.

Committee Action:

Action 6. Implement a commercial trip limit for the Other Jacks Complex

Alternative 1 (No Action). There is no commercial trip limit for the Other Jacks Complex (lesser amberjack, almaco jack, and banded rudderfish).

Alternative 2. Establish a commercial trip limit for the Other Jacks Complex.
Sub-alternative 2a. 500 pounds whole weight (lbs ww)
Sub-alternative 2b. 400 lbs ww
Sub-alternative 2c. 300 lbs ww

Alternative 3. Establish a commercial trip limit for almaco jack only.
Sub-alternative 3a. 500 lbs ww
Sub-alternative 3b. 400 lbs ww
Sub-alternative 3c. 300 lbs ww

IPT input:

- Grouping "Other Jacks" into a complex was supported by the Council and SSC due to the potential misidentification of Jack species. Misidentification issues may reduce the efficacy of a trip limit exclusively for Almaco Jack within the Jacks Complex.

Snapper Grouper AP input:

- AP reiterates concern over Almaco Jack. AP had previously recommended removing Almaco from the Complex and implementing a trip limit on that species.
- Analysis should include season length under no trip limit and under proposed trip limits.
- If possible, break down landings by species to determine whether a single species is driving the harvest.

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 7. Modify the seasonal prohibition on commercial harvest and possession of shallow-water groupers

Alternative 1 (No Action). Commercial harvest and possession of shallow-water groupers (gag, black grouper, scamp, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, graysby, and coney) is prohibited annually in the South Atlantic federal waters from January 1 through April 30.

Alternative 2. Prohibit commercial harvest and possession of shallow-water grouper species annually by area:

Sub-alternative 2a. In federal waters off East Florida from the Georgia/Florida state boundary south to the end of the SAFMC's jurisdiction), the closure applies (month) to (month).

Sub-alternative 2b. In federal waters off Georgia and the Carolinas from the Georgia/South Carolina border north to the North Carolina/Virginia border, the closure applies (month) to (month)

Alternative 3. Prohibit commercial harvest and possession of shallow-water grouper species (excluding black grouper) south of 28° North latitude (approximately off Palm Bay, Florida):

Sub-alternative 3a. January – March (3 months)
Sub-alternative 3b. February – March (2 months)
Sub-alternative 3c. February – April (3 months)
Sub-alternative 3d. February – May (4 months)

Alternative 4. Prohibit commercial harvest and possession of black grouper in federal waters off (specify area based on Alternative 2a above?)

Sub-alternative 4a. January – March (3 months)
Sub-alternative 4b. January
Sub-alternative 4c. February
Sub-alternative 4d. March

Alternative 5. Prohibit commercial harvest and possession of red grouper in federal waters off (specify area based on Alternative 2b above?)

Sub-alternative 5a. January – May (5 months)
Sub-alternative 5b. February – May (4 months)
Sub-alternative 5c. March – June (4 months)

Preliminary Effects Analysis:

7.1 Biological Effects

Alternatives under this action seek to provide managers with the flexibility to enhance the effectiveness of the January-April closure intended to protect shallow-water grouper species from fishing mortality during their spawning season. The existing closure was implemented in 2009 through implementation of Amendment 16 (SAFMC 2009a). In recent years, fishermen and other stakeholders have expressed concern that the current closure is not matching the timing of spawning for certain species (i.e., red grouper off North Carolina, black grouper in the Florida Keys).

Alternative 2 was difficult to evaluate, as the months were not specified. Also of note is that the most recent black grouper stock assessment data workshop noted issues with species identification between gag and black grouper off South Florida. This could have implications for analyses. All landings are assumed to be correctly identified to species in these analyses. It is very challenging to make meaningful predictions of the amount of harvest that will be realized with the removal/modification of the shallow-water grouper closure due to the duration it has been in place. Confidentiality concerns prohibit the disclosure of a time series of landings for the various species considered in the action. Mean 2014-2016 monthly landings of shallow-water grouper species are provided in **Figure 7.1**. This analysis required backfilling landings for the seasonal closures. Commercial harvest of gag, black grouper and red porgy was closed each year during March and April with implementation of Amendment 9 (SAFMC 1998) in 1999. The months of January through April were closed to commercial harvest of all shallow-water grouper with implementation of Amendment 16 (SAFMC 2009a) in mid-2009. Estimates of landings that would be realized during openings in the January-April time period are based on the mean ratios from the last three completely open fishing years for those months. Landings in the January-April period are projected to be relatively high (between 40-80% of May landings); however, this analytical approach does not account for the potential redistribution of peak effort to May following the implementation of the March-April closure in 1999, nor does it account for potential declines in catch rates in the May-December period if the fishery opened earlier in the calendar year. Thus, it is likely the projected landings presented in **Figure 7.1** are an upper bound for what might be caught if the closure months were modified.

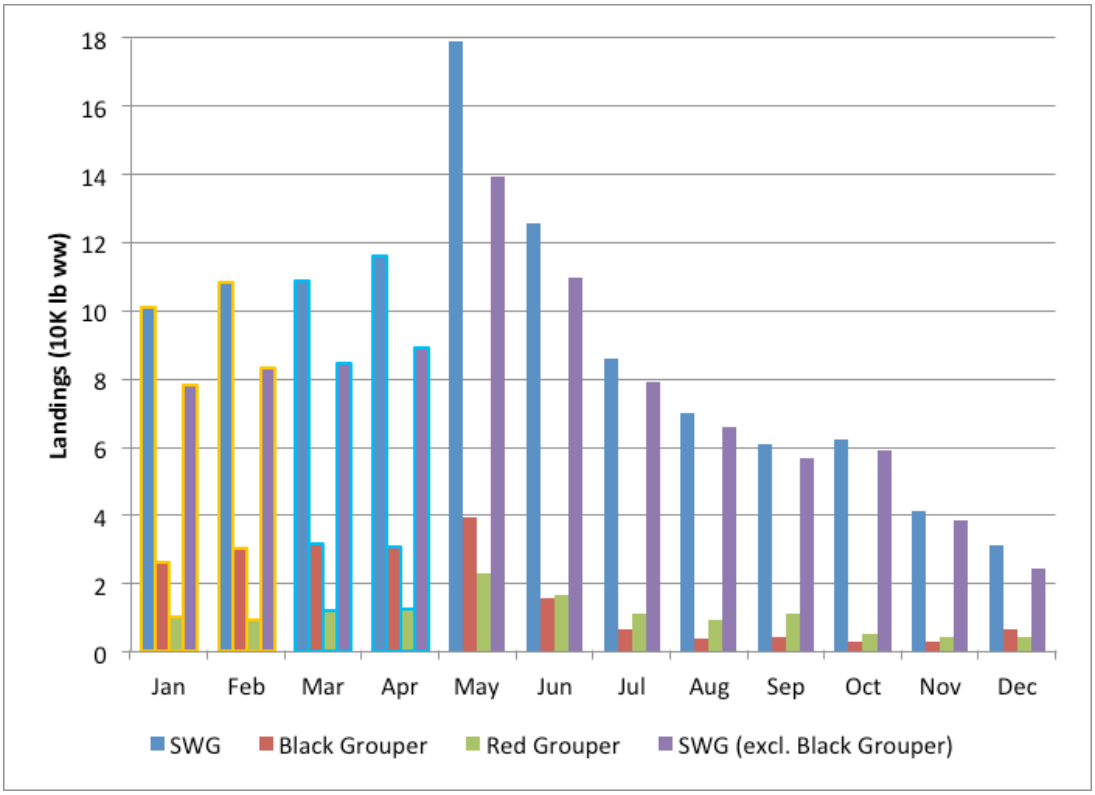


Figure 7.1. Mean 2014-2016 (no outline) and projected (outlines) monthly commercial landings for shallow water grouper (SWG: gag, black grouper, scamp, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, graysby, and coney), black grouper, red grouper, and SWG excluding black grouper. Orange outlines denote expansions using mean ratio of Jan-Feb to May 2007-2009 landings; blue outlines denote expansions using mean ratio of Mar-Apr to May 1996-1998 landings.

Mean monthly estimates of commercial discards for the affected species in this amendment, including shallow water groupers, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. From 2014 through 2016, discards of shallow-water grouper species were relatively low with no discernible peaks throughout the year. Small peaks in discards are present in May, at the very beginning of the commercial fishing year for this group of species, and November.

The following series of figures pertain to individual shallow-water grouper species. Average monthly and annual commercial landings are shown by state (data for Georgia and South Carolina were aggregated to maintain confidentiality).

Gag

Average commercial landings (pounds whole weight; lbs ww) of **gag** are shown in **Figure 7.2** by month and state for pre-closure (2004-2009) and post-closure (2010-2015) years. Note that an annual prohibition on commercial sale and purchase was put in place during March and April for gag (also black grouper and red porgy) through implementation of Amendment 9 in 1999 (SAFMC 1998).

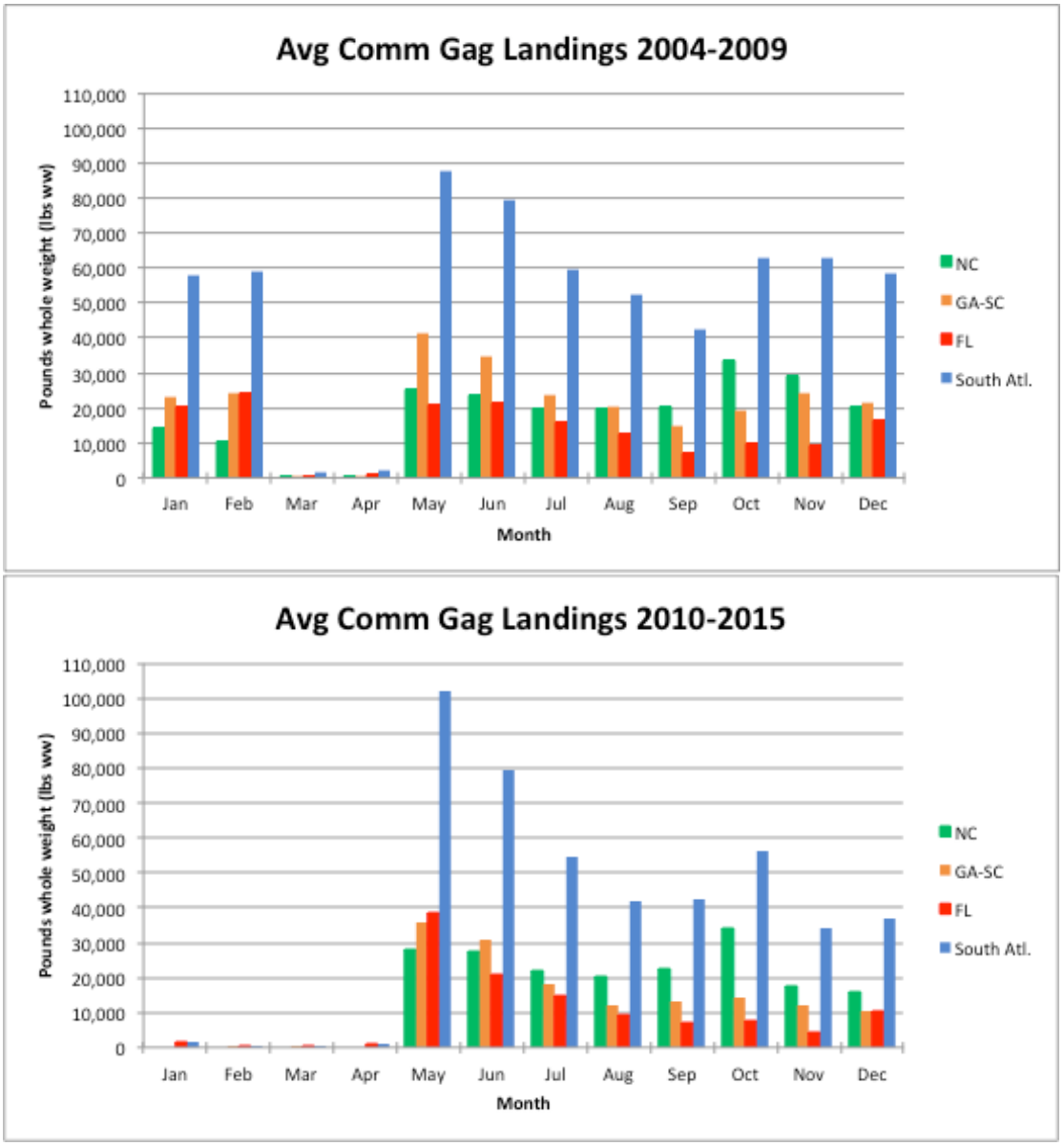


Figure 7.2. Average monthly commercial landings of **gag** (pounds whole weight) from 2004 through 2015 by state. Top panel is for years before the existing closure (2004-2009); bottom panel shows landings in years after the closure (2009-2015). Source: SAFMC

Annual commercial landings (lbs ww) of **gag** from 2014 through 2015 are shown in **Figure 7.3**.

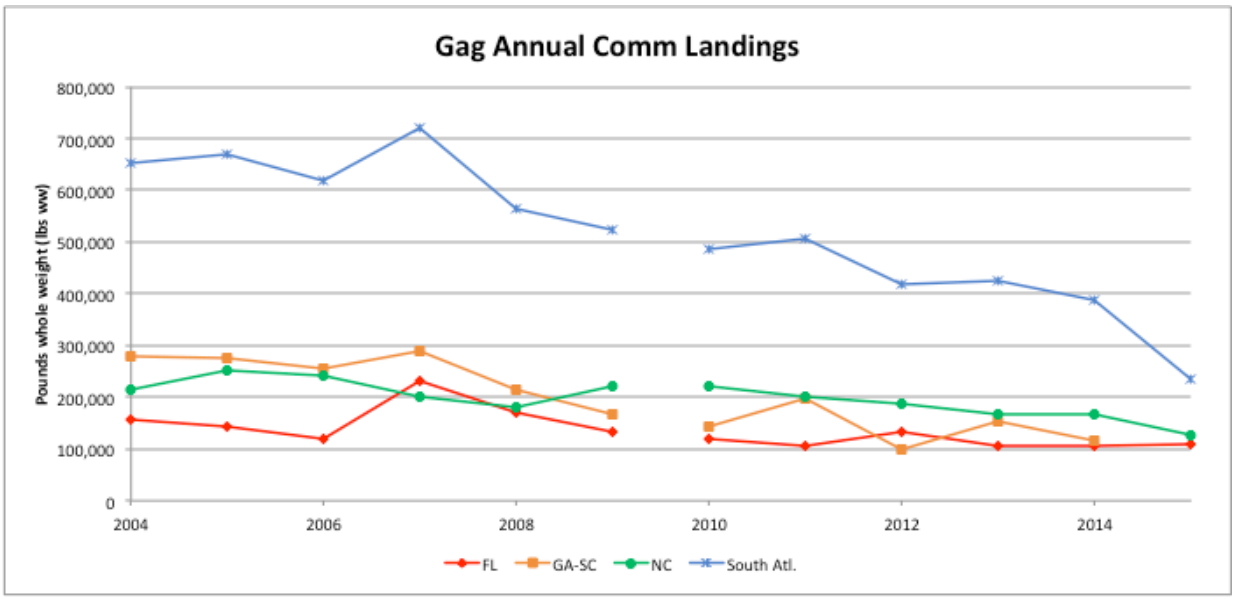


Figure 7.3. Annual commercial landings of **gag** from 2004 through 2015 by state. The shallow water grouper closure was implemented in 2009, depicted in the figure by a break in the series.
Source: SAFMC

Commercial landings of gag in the South Atlantic during 2004-2009 peaked in May, decreased throughout summer months, and increased slightly during the fall (**Figure 7.2**). Low landings in March and April reflect the prohibition on sale and purchase (along with black grouper and red porgy) during those months implemented in 1999 through Amendment 9 (SAFMC 1998). A similar trend in overall landings is evident for years after the closure on all shallow-water groupers was implemented in 2009. Average commercial landings of gag for the South Atlantic in the month of May increased slightly from 2009 to 2010 (**Figure 7.2**).

The distribution of commercial harvest by state is similar in years before and after implementation of the January-April seasonal closure. Landings from South Carolina south are higher in spring months whereas a fall harvest is evident off North Carolina (**Figure 7.2**).

In the South Atlantic, gag spawn from January through June with a peak in February and April (**Table 1.2**). Hence, it is expected that **Alternative 1 (No Action)** would have beneficial biological effects on the species as it encompasses the period of peak spawning activity. More information on the changes proposed in **Alternatives 2** and **3** is needed to assess their potential biological effects on the stock of gag in the South Atlantic.

Red Grouper

Average commercial landings (pounds whole weight; lbs ww) of **red grouper** are shown in **Figure 7.4** by month and state for pre-closure (2004-2009) and post-closure (2010-2015) years. For easier comparison, the range of landings (y-axis) was kept the same for both figures (Source: SAFMC based on SAFE data from SEFSC).

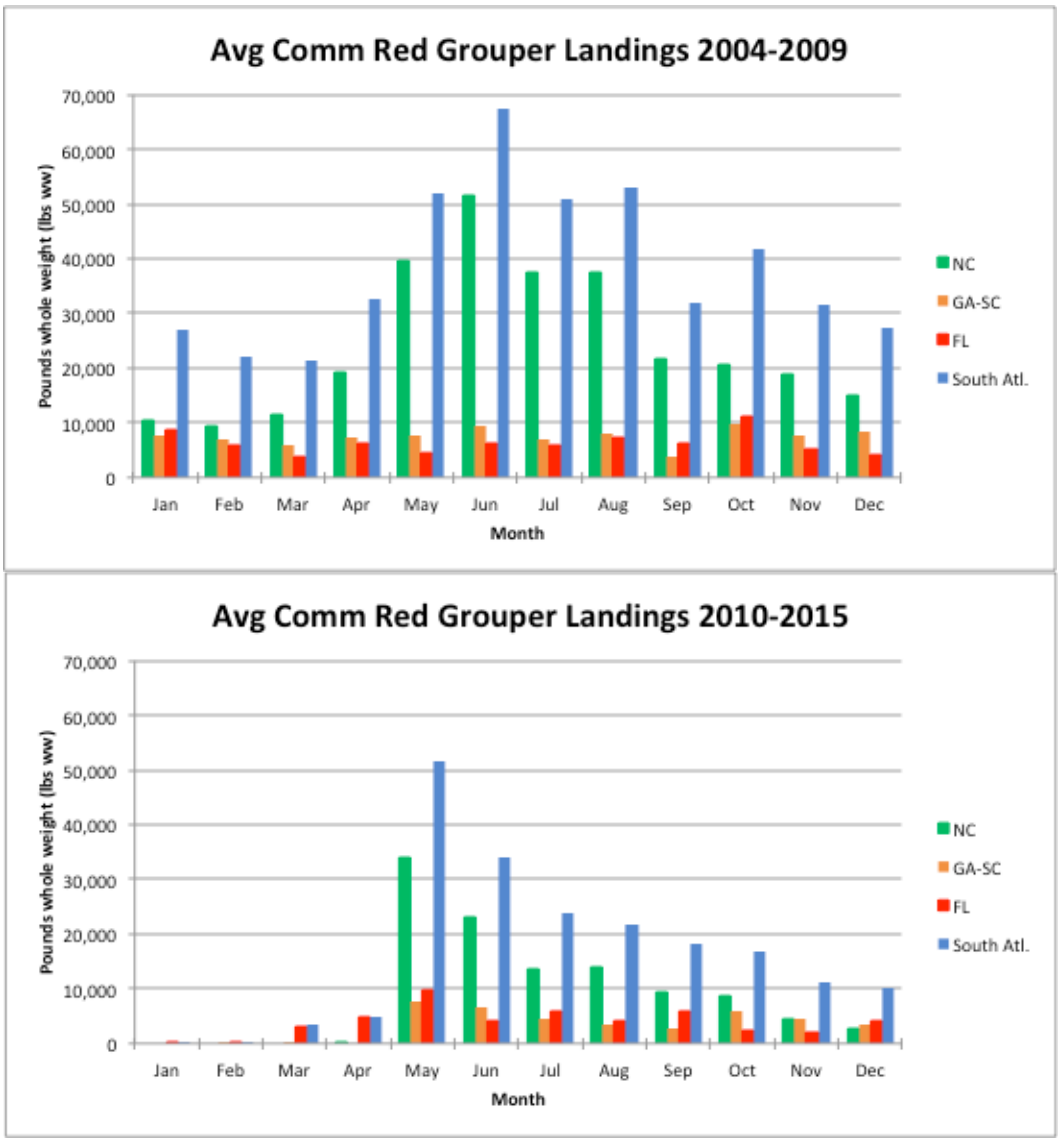


Figure 7.4. Average monthly commercial landings (pounds whole weight) of **red grouper** from 2004 through 2015 by state. Top panel is for years before the existing closure (2004-2009); bottom panel shows landings in years after the closure (2009-2015). Source: SAFMC

Annual commercial landings (lbs ww) of **red grouper** from 2014 through 2015 are shown in **Figure 7.5**.

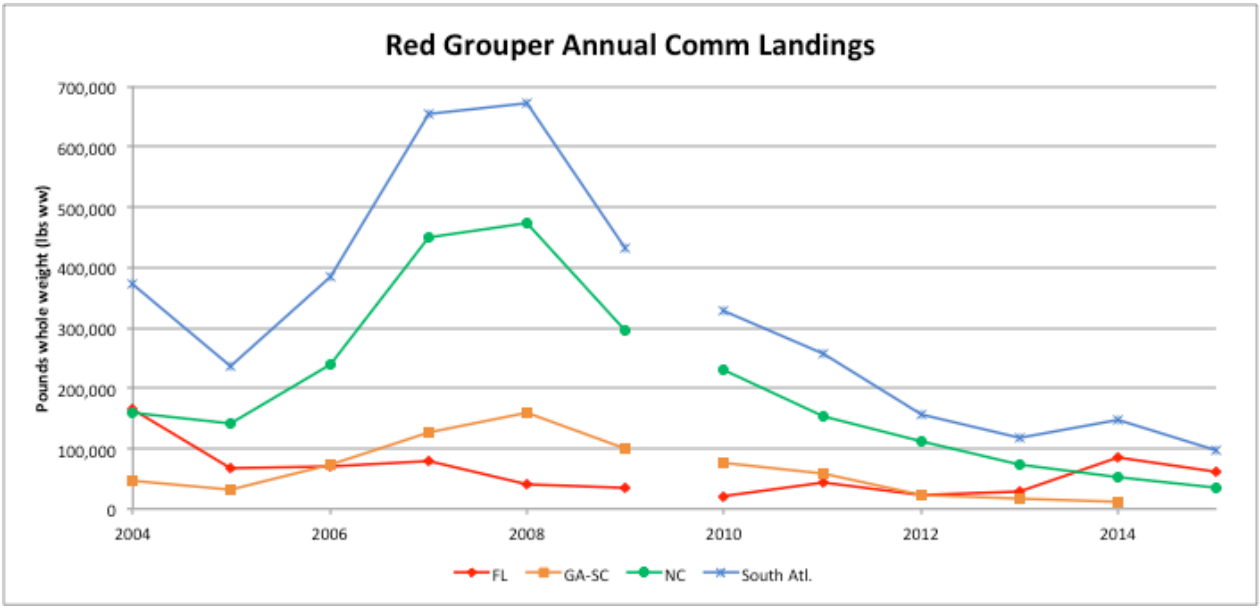


Figure 7.5. Annual commercial landings (pounds whole weight) of **red grouper** from 2004 through 2015 by state. The shallow water grouper closure was implemented in 2009, depicted in the figure by a break in the series.
Source: SAFMC

Prior to implementation of the seasonal closure, red grouper landings in the South Atlantic peaked in June whereas the peak has occurred in May since implementation of the closure in 2009. There has been an overall decrease in red grouper commercial landings In the South Atlantic since 2009 compared to prior years (**Figure 7.4**). The trend is mirrored in the commercial landings of red grouper off North Carolina. Indeed, **Figure 7.4** shows that North Carolina has significantly higher landings of red grouper than the rest of the South Atlantic states. Landings were reported from Florida in 2015 during March (12,775 lbs ww) and April (18,785 lbs ww).

Red grouper spawn from February through June in the South Atlantic with a peak in April (**Table 1.2**). Fishermen have indicated, however, that red grouper harvested in May off North Carolina are frequently in spawning condition and there is concern that the current spawning season closure is not capturing the bulk of spawning activity for that species in North Carolina. Detailed information on the spatial distribution of red grouper spawning activity is needed to corroborate this information. However, there have been observed shifts in the timing of spawning activity for other species in response to warming ocean temperature (insert citations). The current limited amount of information on the reproductive biology of red grouper, would indicate that **Alternative 1 (No Action)** encompasses the bulk of red grouper spawning activity in the region and would continue to impart beneficial biological effects on the red grouper stock. However, as mentioned above, landings data indicate that red grouper are most abundant off North Carolina (**Figure 7.4**); therefore, **Alternative 5** and its sub-alternatives, if applicable to

federal waters off North Carolina (**Alternative 2**, **Sub-alternative 2b**), would be expected to result in positive biological effects. **Sub-alternative 5a** would lengthen the existing seasonal closure by one month, **Sub-alternative 5b** would shift the closure by a month, and **Sub-alternative 5c** would shift the closure by two months. It is expected that **Sub-alternatives 5a** and **5b** would have similar biological effects as they both include the month of May and commercial fishing for red grouper is low or non-existent in January off North Carolina. **Sub-alternative 5c** would allow fishing for red grouper in February, when the species is reportedly commencing spawning activity in the South Atlantic (**Table 1.2**). However, extending the seasonal closure for two months past the reported peak in spawning may have the most positive biological effects on red grouper off North Carolina.

Scamp

Average commercial landings (pounds whole weight; lbs ww) of **scamp** are shown in **Figure 7.6** by month and state for pre-closure (2004-2009) and post-closure (2010-2015) years. For easier comparison, the range of landings (y-axis) was kept the same for both figures (Source: SAFMC based on SAFE data from SEFSC).

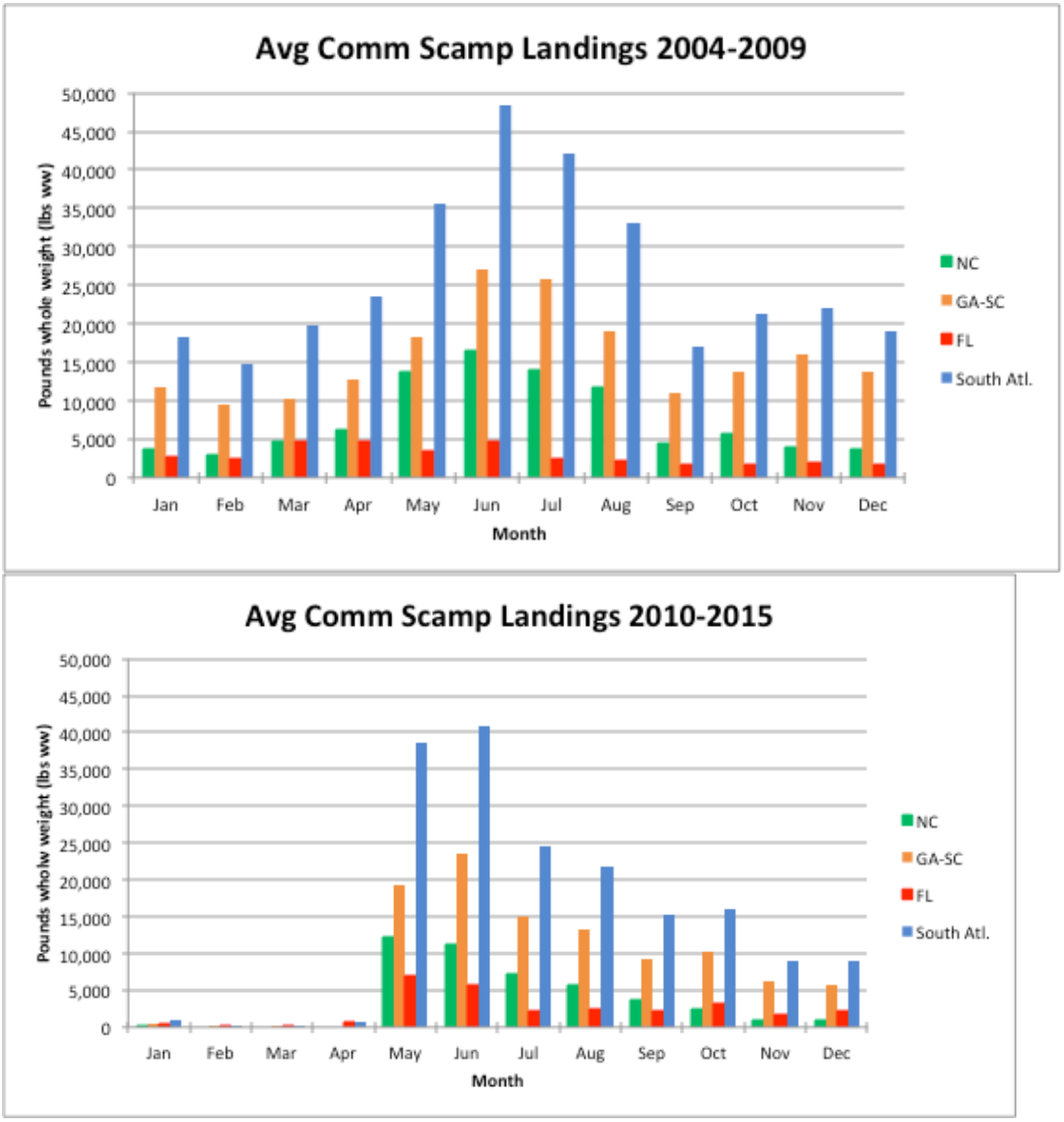


Figure 7.6. Average monthly commercial landings (pounds whole weight) of **scamp** from 2004 through 2015 by state. Top panel is for years before the existing closure (2004-2009); bottom panel shows landings in years after the closure (2009-2015). Source: SAFMC

Annual commercial landings (lbs ww) of **scamp** from 2014 through 2015 are shown in **Figure 7.7**.

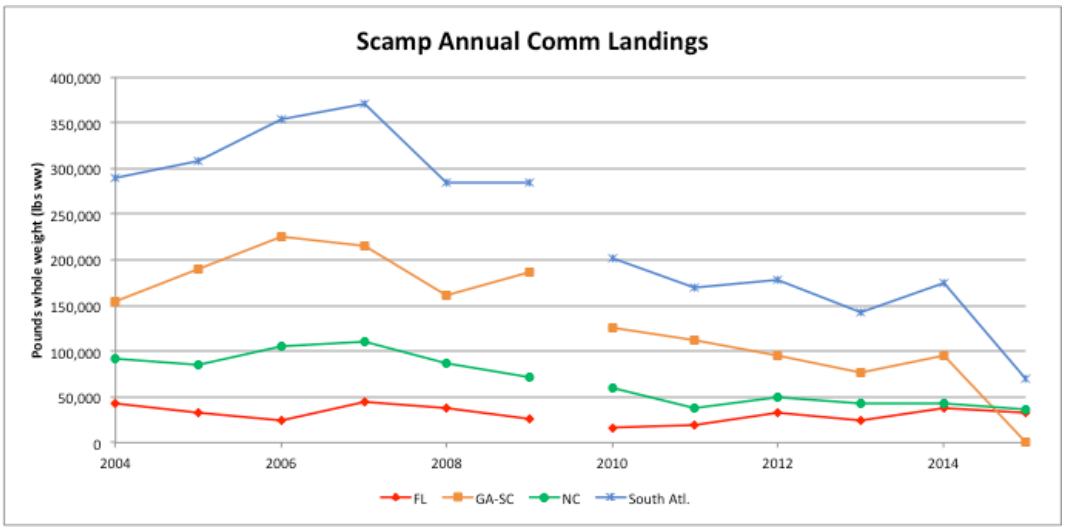


Figure 7.7. Annual commercial landings (pounds whole weight) of **scamp** from 2004 through 2015 by state. The shallow water grouper closure was implemented in 2009, depicted in the figure by a break in the series.
Source: SAFMC

The overall trend in the distribution of commercial landings of scamp in the South Atlantic prior to the seasonal closure and thereafter appear essentially unchanged (**Figure 7.6**). The magnitude of landings, however, has diminished since 2009. Landings show a peak in June both in years prior to and after implementation of the closure and have been highest off South Carolina-Georgia compared to the rest of the South Atlantic states.

Off North Carolina, scamp have been documented to spawn from April through August with peak activity in May and June; whereas in Florida, the species reportedly spawns in April and September (**Table 1.2**). Based on this information, the current seasonal closure on commercial harvest under **Alternative 1 (No Action)** is not encompassing the entirety of peak spawning activity for the species in the South Atlantic. As currently structured, it is unclear whether the sub-alternatives under **Alternative 2** would impart biological benefits to scamp. Of the **Alternative 3** sub-alternatives, **Sub-alternatives 3c** and **3d** encompass the month of April, when scamp are reportedly spawning off Florida (**Table 1.2**). Of these, **Sub-alternative 3d** would be most likely to encompass the bulk of spawning activity and, therefore, be more biologically beneficial to scamp than **Sub-alternative 3c**.

Black Grouper

Annual commercial landings (lbs ww) of **black grouper** from 2004 through 2015 are shown in **Figure 7.8**.

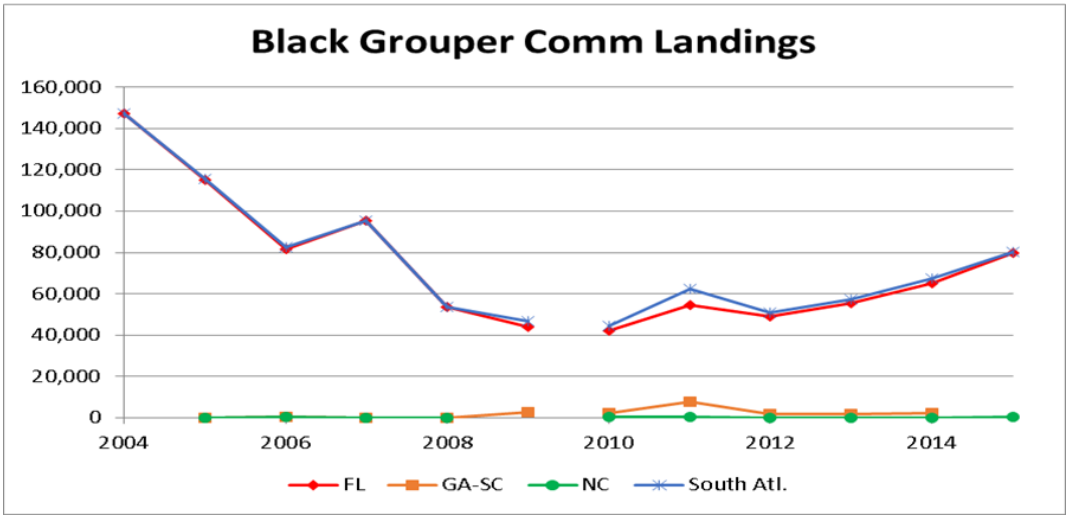


Figure 4.7.1.8. Annual commercial landings of **black grouper** (pounds whole weight) from 2004 through 2015 by state. The shallow water grouper closure was implemented in 2009, depicted in the figure by a break in the series.
Source: SAFMC

In the South Atlantic, black grouper are most commonly found in the Florida Keys along the reef tract, and are caught along high relief areas in deeper waters off of the west coast of Florida to the Florida Middle Grounds and off of the east coast of Florida (SEDAR 19 2010). Indeed, annual commercial landings indicate that the vast majority of commercial black grouper harvest takes place in Florida.

According to SEDAR 19 (2010), the peak spawning season of black grouper, based on back-calculated hatching dates of postlarval fish, is from February through April. Spawning aggregations of the species have been observed in the Florida Keys but spawning activity was not confirmed (Ecklund et al. 2000).

With the limited amount of information for this species' timing, duration, and location of spawning activity, it is difficult to evaluate the effects of proposed alternatives under this action. **Alternative 4** considers seasonal closures on the commercial harvest of black grouper. If the sub-alternatives under **Alternative 4** were to be applicable to South Florida and the Florida Keys (**Alternative 2**, **Sub-alternative 2a**), then **Sub-alternative 4a** would encompass the longest time during which the species is reportedly spawning and would result in the greatest biological benefit of the alternatives considered. **Sub-alternatives 4c** and **4d** would each only encompass one of the three peak spawning months, whereas **Sub-alternative 4b** would implement a closure outside of the peak spawning months for black grouper.

Mean monthly estimates of commercial discards for the affected species in this amendment, including Shallow-water groupers, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. From 2014 through 2016, discards of shallow-water grouper species in the commercial fishery were higher overall than those for other snapper grouper species, except red porgy, with peaks in May and September-November.

7.2 Economic Effects

To be completed

7.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of shallow water snapper grouper species is included in **Section 3.4** (in draft document). The potential effects on commercial fishing businesses and coastal communities of modifying the shallow water grouper closure will be a trade-off between the biological benefits of the seasonal closure and the increased commercial fishing opportunities if the closure is shortened. In general, a longer seasonal closure may be biologically beneficial to the stock and contribute to sustainable fishing opportunities in the future if the closure appropriately lines up with spawning, but longer closure would be more likely to restrict access to the shallow water species.

There may be some benefits to maintaining the current seasonal closure in **Alternative 1 (No Action)**, including minimized complexity in management that will result from **Alternatives 2-5**. However, public input from fishermen indicate that the biological benefits of the closure could be maximized if the closures were better tailored by area and with specific times for some species. The benefits to commercial fishermen of more appropriate closures for the areas will be more likely under **Alternative 2/Sub-alternatives 2a and 2b** than under **Alternative 1 (No Action).** Designating an additional sub-zone in **Alternative 3** for south Florida and the Florida Keys will add complexity to management, but may also contribute to better aligned closure with the spawning activity.

The potential effects on fishermen from a specified closure for black grouper in the area north of the Georgia/Florida line (**Alternative 4**) will depend on where and when black grouper are spawning, and there is limited information about this (see **Section 7.1**). However, there will be expected short-term benefits to recreational fishermen targeting black grouper in Georgia, South Carolina and North Carolina from potentially shorter closures in **Sub-alternatives 4a-4d**, particularly the one-month closures in **Sub-alternatives 4b-4d.** It is likely that the potential effects on Florida fishermen from adjusting the red grouper closure for Florida (**Alternative 5**) would be similar as the effects on Georgia, South Carolina and North Carolina under **Alternative 4.**

7.4 Administrative Effects

To be completed

Committee Action:

Action 7. Modify the seasonal prohibition on commercial harvest and possession of shallow-water groupers

Alternative 1 (No Action). Commercial harvest and possession of shallow-water groupers (gag, black grouper, scamp, red grouper, yellowfin grouper, yellowmouth grouper, red hind, rock hind, graysby, and coney) is prohibited annually in the South Atlantic federal waters from January 1 through April 30.

Alternative 2. Prohibit commercial harvest and possession of shallow-water grouper species ~~annually~~ seasonally by area:

Sub-alternative 2a. In federal waters off East Florida from the Georgia/Florida state boundary south to the end of the SAFMC's jurisdiction), the closure applies (month) to (month).

Sub-alternative 2b. In federal waters off Georgia and the Carolinas from the Georgia/South Carolina border north to the North Carolina/Virginia border, the closure applies (month) to (month)

Alternative 3. Prohibit commercial harvest and possession of shallow-water grouper species (excluding black grouper) south of 28° North latitude (approximately off Palm Bay, Florida):

Sub-alternative 3a. January – March (3 months)
Sub-alternative 3b. February – March (2 months)
Sub-alternative 3c. February – April (3 months)
Sub-alternative 3d. February – May (4 months)

Alternative 4. Prohibit commercial harvest and possession of black grouper in federal waters off (specify area based on Alternative 2a above?)

Sub-alternative 4a. January – March (3 months)
Sub-alternative 4b. January
Sub-alternative 4c. February
Sub-alternative 4d. March

Alternative 5. Prohibit commercial harvest and possession of red grouper in federal waters off (specify area based on Alternative 2b above?)

Sub-alternative 5a. January – May (5 months)
Sub-alternative 5b. February – May (4 months)
Sub-alternative 5c. March – June (4 months)

IPT input:

- Black grouper stock assessment is currently ongoing. At the data workshop, problems with species ID between gag and black grouper off South Florida were identified. This could have implications for analyses.
- Red grouper assessment will be presented to Council in June 2017. Stock overfished and undergoing overfishing and may need rebuilding plan (would need Plan amendment).
- Define/clarify area and timing specifications within alternatives

Snapper Grouper AP input:

- MOTION: AP RECOMENDS ALTERNATIVE 1, NO ACTION, FOR MODIFYING THE SHALLOW WATER GROUPER CLOSURE FOR THE COMMERCIAL SECTOR
  APPROVED (UNANIMOUSLY)

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 8. Remove the commercial minimum size limits for certain deep-water species

Alternative 1 (No Action). The commercial minimum size limit for queen snapper, silk snapper, and blackfin snapper in South Atlantic federal waters is 12 inches total length (TL).

Alternative 2. Remove the 12-inch TL commercial minimum size limit for queen snapper, silk snapper, and blackfin snapper in South Atlantic federal waters.

Preliminary Effects Analysis:

8.1 Biological Effects

The current commercial size limit of 12 inches total length (TL) for queen snapper, silk snapper, and blackfin snapper was established in Amendment 9 (SAFMC 1998). It was difficult to determine the effects of **Alternative 2** due to the lack of commercial discard data available. The only discard data available for the years 2014-2016 were from the SEFSC Supplemental Discard Logbook Program. The discard logbook database (accessed May 2017) contains self-reported discard data from a 20% sub-sample (by region and gear fished) of all commercial vessels with federal fishing permits.

From 2014-2016, only two trips reported discards for silk snapper and no discards were reported for queen snapper or blackfin snapper (**Table 8.1**). None of the species were reported as being kept for bait. Among trips with reported discards for any of the three species, there were five silk snapper discarded alive due to being undersized. A literature search did not reveal any discard mortality studies specific to the species in this action, but other studies of commercially discarded red snapper have estimated discard mortality rates > 50% outside of 60 m (Campbell et al. 2014, Pulver 2017). Expanding the observed discard rates to the fishery as a whole is non-informative due to low reported encounters in recent years (see **Table 1.2**).

Available data suggest minimal changes in discard or harvest rates would be expected under **Alternative 2**. The reliability of this analysis is dependent upon the accuracy of the underlying data and input assumptions. Thus, biological effects of **Alternative 2** would be neutral compared to **Alternative 1 (No Action)** as removing the size limit would have no effect on overall harvest, which is limited by the annual catch limit, and accountability measures are in place to prevent overages.

Table 8.1. Number of discards of queen, silk, and blackfin snapper reported to the coastal logbook program from 2014 through 2016 for the South Atlantic.

Species	Number Discarded	Discard Condition	Discard Reason
Queen Snapper	0	———	———
Silk Snapper	5	All Alive	Size Limit
Blackfin Snapper	0	———	———

8.2 Economic Effects

To be completed

8.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of queen, silk and blackfin snapper is included in **Section 3.4** (in draft document). Some social effects of removing the minimum size limits from the deepwater species would be associated with the positive and negative biological effects on the species (see **Section 8.1**). Positive effects of removing the minimum size limit would result from reduced discards. This would be expected to contribute to the sustainability of harvest and the health of these stocks.

However, as discussed in **Section 8.1**, catch for queen, silk and blackfin snapper is generally at low levels. Removing the minimum size limit (**Alternative 2**) would likely have minimal or no effect on current commercial trips, and are similar to expected effects of **Alternative 1 (No Action)**, because these species are not commonly caught.

8.4 Administrative Effects

Beneficial administrative effects would be expected from **Alternative 2**, when compared with **Alternative 1 (No Action)**. Removing the minimum size limit for deep-water species would create consistent regulations with other managed deep water species, which would help the public avoid confusion with regulations and aid law enforcement. Administrative impacts on the agency associated with the action alternatives would be incurred by rulemaking, outreach, education and enforcement. Because there is a minimum size limit already in place for these three deep-water species in the South Atlantic Region under **Alternative 1 (No Action)**, removing the minimum size limit under **Alternatives 2** would not be unusually burdensome.

Committee Action:

Action 8. Remove the commercial minimum size limits for certain deep-water species

Alternative 1 (No Action). The commercial minimum size limit for queen snapper, silk snapper, and blackfin snapper in South Atlantic federal waters is 12 inches total length (TL).

Alternative 2. Remove the 12-inch TL commercial minimum size limit for queen snapper, silk snapper, and blackfin snapper in South Atlantic federal waters.

Snapper Grouper AP input:

- MOTION: RECOMMEND REMOVAL OF MINIMUM SIZE LIMIT FOR DEEP-WATER SPECIES
  APPROVED (UNANIMOUSLY)
  Note: This motion was approved under discussion of Vision Blueprint Recreational Amendment 26. However, the AP had the same recommendation for the commercial sector.

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

Action 9. Decrease the commercial minimum size limit for gray triggerfish off the east coast of Florida

Alternative 1 (No Action). The commercial minimum size limit for gray triggerfish in the South Atlantic federal waters off the east coast of Florida is 14 inches fork length (FL). The commercial minimum size limit for gray triggerfish in the federal waters off Georgia, South Carolina, and North Carolina is 12 inches FL.

Alternative 2. Decrease the commercial minimum size limit for gray triggerfish in the federal waters off the east coast of Florida to 12 inches FL.

Preliminary Effects Analysis:

9.1 Biological Effects

The South Atlantic Council recently modified the gray triggerfish minimum size limit for the commercial sector in federal waters off the east coast of Florida in Amendment 29, effective July 1, 2015 (SAFMC 2014). This amendment raised the minimum size limit in federal waters off the east coast of Florida from 12 inches total length (TL) to 14 inches fork length (FL). To evaluate the effects of lowering the current minimum size limit, commercial catch data collected by the Southeast Fisheries Science Center's (SEFSC) Trip Intercept Program (TIP) prior to the current rule were used to determine potential impacts. Only gray triggerfish harvested from January 2014 through June 2015 by the commercial sector in federal waters off east Florida were used in the analyses.

Figure 9.1 shows gray triggerfish length distribution in 1-inch increments from January 2014 to June 2015 for the commercial sector. The majority of the gray triggerfish harvested were above the current minimum size limit of 14 inches FL **(Alternative 1 (No Action))**. Lowering the current size limit to 12 inches FL (**Alternative 2**) would result in approximately 20% additional gray triggerfish available for harvest. This is consistent with recent analyses from Amendment 29 (SAFMC 2014) that reported between 11% and 26% of the mean monthly landings were less than 14 inches FL in the South Atlantic from 2007 through 2012. **Alternative 2** would also likely reduce discards during the open months; however, harvest rates could also increase possibly shortening the commercial fishing seasons. In-season closures have been implemented for gray triggerfish every year since 2012 (**Table 9.1**).

Table 9.1. Gray triggerfish recent landings (lbs) and quota closures.

Fishing Year	Fishing Season	Total Landings	ACL	Units	Quota %	Closure Date
2015	Jan 1 - June 30	243,566	272,880	ww	89.26	5/8/15
	July 1 - Dec 31	85,164	63,918		133.24	9/8/15
2014	Jan 1 - Dec 31	252,783	272,880		92.64	5/12/14
2013		322,455	272,880		118.17	7/7/2013
2012		317,161	305,262		103.90	9/11/12; Re-opened 12/12/12-12/19/12

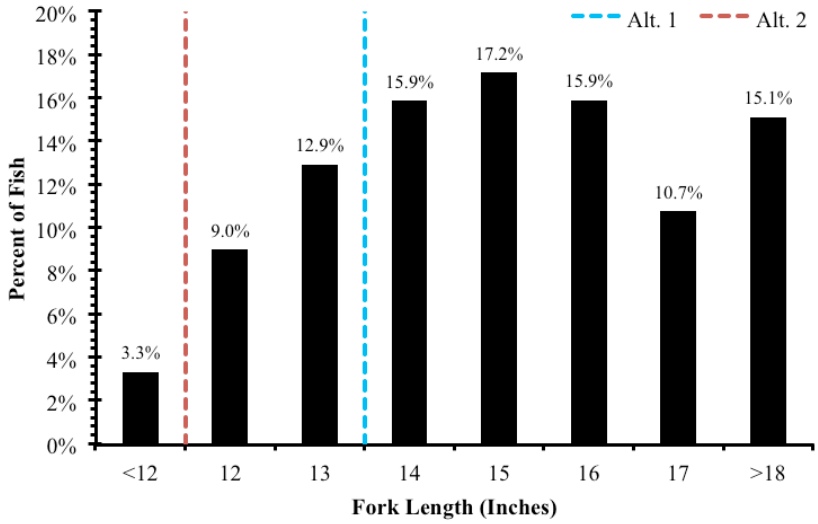


Figure 9.1. Length distribution of gray triggerfish (inches fork length) caught in federal waters off east Florida generated from commercial TIP (n=2,616) data from January 2014 to June 2015. Dashed lines denote the commercial minimum size limit proposed in each alternative.

Similar to the length distribution, lowering the size limit to 12 inches FL would increase the rate of harvest, thus increasing landings and possibly shortening the current commercial seasons (**Table 9.2**). The reliability of this analysis is dependent upon the accuracy of the underlying data and input assumptions. This analysis assumes that the size distribution of the commercial harvest of gray triggerfish from January 2014 to June 2015 will reflect the size distribution of gray triggerfish commercial harvest in the future.

Table 9.2. Estimated percent increase in whole weight of commercial gray triggerfish landings at 1-inch intervals between 12-14 inches fork length (FL). The increases were generated with TIP data from January 2014 to June 2015 from a sample of 2,616 fish.

Minimum Size Limit (inches FL)	Percent Increase
12	19.7
13	12.5
14	0.0

The biological effects of **Alternative 2** could be negative even with overall harvest limited to the ACL and with AMs are in place to prevent overages. The reduction in discarded fish during the open months may have minimal impact due to the low discard mortality of 12.5% estimated in SEDAR 41 (2016) and the loss in egg production. However, a decrease in the size limit, as proposed under **Alternative 2**, could have negative biological effects if larger fish produce more eggs. The length at 50% maturity (L50) in SEDAR 41 (2016) was estimated at 177 mm (7 inches) for female gray triggerfish. Based on equations in SEDAR 41 for length-age relationship (Von Bertalanffy equation) and egg production at age, a 12-inch gray triggerfish female produces about half the number of eggs as a 14-inch fish.

Mean monthly estimates of commercial discards for the affected species in this amendment, including gray triggerfish, from the SEFSC Supplemental Commercial Discard Logbook (accessed May 2017) are provided in **Table 1.3**. From 2014 through 2016, discards of gray triggerfish in the commercial fishery were highest from July through September. However, the current commercial split season, was implemented in July 2015 (Amendment 29; SAFMC 2014).

9.2 Economic Effects

To be completed

9.3 Social Effects

A description of the communities that would most likely be affected by changes in commercial management of gray triggerfish is included in **Section 3.4** (in draft document). Some social effects of minimum size limits would be associated with the biological effects on gray triggerfish (**Section 9.1**). Additionally, there is a trade-off with reducing the minimum size limit in that an increase in the number of fish that can be kept may improve commercial trip profitability, but may also contribute to the harvest rate and associated accountability measure if landings reach the ACL sooner in the fishing year.

Reducing the minimum size limit (**Alternative 2**) may benefit Florida commercial fishermen by increasing the number of fish that can be kept, which may increase trip profitability. **Alternative 2** would also make the minimum size limit consistent for all South Atlantic states, and be expected to reduce the number of discards.

There is a greater likelihood that landings and rate of harvest would increase under the proposed minimum size limit in **Alternative 2** than minimum size limit in **Alternative 1 (No Action)**. The accountability measure for gray triggerfish is an in-season closure for the whole South Atlantic, which extends the potential negative effects of **Alternative 2** to all commercial

fishermen targeting gray triggerfish. The benefits and costs to commercial fishermen would depend on the balance of increasing the number of fish that can be kept while ensuring that an increased harvest rate would not result in a shortened commercial season.

9.4 Administrative Effects

Beneficial administrative effects would be expected from **Alternative 2**, when compared with **Alternative 1** (**No Action**). Alternatives that specify a consistent minimum size limits in state and federal waters throughout the South Atlantic Council's jurisdiction would help the public avoid confusion with regulations and aid law enforcement. Administrative impacts on the agency associated with the action alternatives would be incurred by rulemaking, outreach, education and enforcement.

Committee Action:

Action 9. Decrease the commercial minimum size limit for gray triggerfish off the east coast of Florida

Alternative 1 (No Action). The commercial minimum size limit for gray triggerfish in the South Atlantic federal waters off the east coast of Florida is 14 inches fork length (FL). The commercial minimum size limit for gray triggerfish in the federal waters off Georgia, South Carolina, and North Carolina is 12 inches FL.

Alternative 2. Decrease the commercial minimum size limit for gray triggerfish in the federal waters off the east coast of Florida to 12 inches FL.

IPT input:

- Consider an alternative that would increase the MSL from 12 to 14 inches off GA, SC and NC?
- The Gulf Council is considering increasing the MSL to 15 inches as Gulf gray trigger is undergoing overfishing.

Snapper Grouper AP input:

- MOTION: AP RECOMMENDS ALTERANTIVE 2, REDUCING THE MSL FOR GRAY TRIGGERFISH OFF EAST FLORIDA TO 12 INCHES.
  APPROVED (1 ABSTENTION)
  Note: This motion was approved under discussion of Vision Blueprint Recreational Amendment 26. However, the AP had the same recommendation for the commercial sector.

CONSIDER IPT'S AND AP'S RECOMMENDATIONS AND PRELIMINARY ANALYSES AND MODIFY ALTERNATIVES AS NECESSARY

SELECT PREFERRED ALTERNATIVE?

APPROVE VISION BLUEPRINT COMMERCIAL REGULATORY AMENDMENT 27 FOR PUBLIC HEARINGS IN AUGUST 2017?