Regulatory Amendment 15 to the Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

Summary for Snapper Grouper Advisory Panel

Yellowtail Snapper and Shallow-Water Groupers

Environmental Assessment Regulatory Impact Review Fishery Impact Statement

OCTOBER 2012

Definitions, Abbreviations, and Acronyms

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
B_{CURR}	the current stock biomass
CPUE	catch per unit effort
DEIS	draft environmental impact statement
EA	environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
F	a measure of the instantaneous rate of fishing mortality
$F_{30\%SPR}$	fishing mortality that will produce a static SPR = 30%
F_{CURR}	the current instantaneous rate of fishing mortality
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B_{OY}
FEIS	final environmental impact statement
FMP	fishery management plan
FMU	fishery management unit
M	natural mortality rate
MARMAP	Marine Resources Monitoring Assessment and Prediction Program
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OY	optimum yield
RIR	regulatory impact review
SAMFC	South Atlantic Fishery Management Council
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SIA	social impact assessment
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee

What Actions Are Being Proposed?

This amendment proposes actions to: (1) modify the Optimum Yield (OY) and Annual Catch Limit (ACL) for yellowtail snapper in the South Atlantic, (2) consider changes to the commercial and recreational yellowtail snapper fishing years and a spawning season closure for the commercial sector, and (3) modify the gag annual catch limit and/or modify or remove the accountability measure (AM) that requires a closure of shallow-water groupers (red grouper, black grouper, scamp, yellowmouth grouper, yellowfin grouper, red hind, rock hind, graysby, and coney) when the commercial ACL for gag is met or projected to be met.

Why are the Council and NOAA Fisheries Considering Action?

The South Atlantic Council and NOAA Fisheries are considering taking action to adjust the Optimum Yield (OY) and Annual Catch Limit (ACL) for yellowtail snapper in response to the new stock assessment. The yellowtail snapper stock was assessed in 2012 with data through 2011.

A change the yellowtail snapper commercial fishing year is being considered to diminish the possibility of a commercial closure and lengthen the commercial fishing season. Changes to the recreational fishing year would be made to be consistent with any changes to the commercial fishing year and avert administrative issues. A spawning season closure would be considered to provide protection to yellowtail snapper during a vulnerable time when spawning aggregations tend to occur.

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks
- Consists of 13 voting members: 8 appointed by the Secretary of Commerce, 1 representative from each of the 4 South Atlantic states, the Southeast Regional Director of NOAA Fisheries Service; and 4 non-voting members
- Responsible for developing fishery management plans and amendments under the Magnuson-Stevens Act; and recommends actions to NOAA Fisheries Service for implementation
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West with the exception of Mackerel which is from New York to Florida, and Dolphin-Wahoo, which is from Maine to Florida

Action to modify the existing gag annual catch limit (ACL) and modify/or remove the accountability measure that requires a closure of all shallow-water groupers when the gag ACL is met or projected to be met is being considered to minimize socioeconomic impacts to those who utilize this portion of the snapper grouper fishery in the South Atlantic region.

Purpose for Actions

Action 1. Yellowtail Snapper: Adjustment to Optimum Yield and Annual Catch Limit *– Modify the existing specification of Optimum Yield and Annual Catch Limit for yellowtail snapper in the South Atlantic.*

Action 2. Yellowtail Snapper: Commercial and Recreational Fishing Year and Spawning Season Closures *– Modify existing regulations for yellowtail snapper in the South Atlantic.*

Action 3. Gag and Shallow Water Groupers: Commercial Annual Catch Limits and Accountability Measures - Modify the existing gag annual catch limit and/or accountability measure for gag that requires a closure of all other shallow water groupers (black grouper, red grouper, scamp, red hind, rock hind, graysby, coney, yellowmouth grouper and yellowfin grouper) in the South Atlantic when the gag ACL is met or projected to be met.

Need for Actions

Action 1. Yellowtail Snapper: Adjustment to Optimum Yield and Annual Catch Limit – *A new stock assessment was completed in 2012 that currently constitutes the best available science on stock status of this species in the southeast U.S.*

Action 2. Yellowtail Snapper: Commercial and Recreational Fishing Year and Spawning Season Closures - Promote biological benefits to the yellowtail snapper population by protecting fish during spawning periods. Promote socioeconomic benefits to fishermen and fishing communities that utilize the yellowtail portion of the snapper grouper fishery by avoiding in-season closures and closures during peak harvest times (spring and early fall).

Action 3. Gag and Shallow Water Groupers: Commercial Annual Catch Limits and Accountability Measures - Reduce adverse socioeconomic effects to fishermen and fishing communities that utilize the shallow water grouper portion of the snapper grouper fishery.

Proposed Actions & Alternatives

Action 1. Revise Annual Catch Limit (ACL) and Optimum Yield (OY) for Yellowtail Snapper

Alternative 1 (No Action). For yellowtail snapper, establish ACL = OY = ABC.

Commercial ACL = 1,142,657
Recreational ACL = 1,031,218
Recreational ACT = 897,160
(all values pounds whole weight and landings only)

Note: These values are based upon the results of SEDAR 3 (2003); an ABC per the SSC recommendation and ABC Control Rule of 2,898,500 lbs whole weight; jurisdictional allocations of South Atlantic = 75% of ABC and Gulf of Mexico = 25% of ABC [South Atlantic ABC = 2,173,875 lbs whole weight (GOM = 724,625 lbs whole weight)]; sector allocations of commercial = 52.56% and recreational = 47.44%; and a recreational sector ACT definition of ACL*(1-PSE) or ACL*0.5, whichever is greater, whereas the average percent standard error for MRFSS for yellowtail snapper during 2005-2009 is 13%.

A temporary rule through emergency action is currently being developed for implementation in 2012. If this action is implemented, the values would be as follows:
In 2012 for yellowtail snapper, establish ACL = OY = ABC.

Commercial ACL = 1,596,510
Recreational ACL = 1,440,990
Recreational ACT = 1,253,661
(all values pounds whole weight and landings only)

Note: The values for the 2012 fishing season are based upon the results of the 2012 Stock Assessment Report for Yellowtail Snapper in the South Atlantic and Gulf of Mexico (2012); an ABC per the SSC recommendation and ABC Control Rule of 4,050,000 lbs whole weight; jurisdictional allocations of South Atlantic = 75% of ABC and Gulf of Mexico = 25% of ABC (South Atlantic ABC = 3,037,500 lbs whole weight and Gulf of Mexico ABC = 1,012,500 lbs whole weight); sector allocations of commercial = 52.56% and recreational = 47.44%; and a recreational sector ACT definition of ACL*(1-PSE) or ACL*0.5, whichever is greater, whereas the average percent standard error for MRFSS for yellowtail snapper during 2005-2009 is 13%.

Alternative 2. For yellowtail snapper, establish ACL = OY = ABC.

Commercial ACL = 1,596,510
Recreational ACL = 1,440,990
Recreational ACT = 1,253,661
(all values pounds whole weight and landings only)

Note: These values are based upon the results of the 2012 Stock Assessment Report for Yellowtail Snapper in the South Atlantic and Gulf of Mexico (2012); an ABC per the SSC recommendation and ABC Control Rule of 4,050,000 lbs whole weight; jurisdictional allocations of South Atlantic = 75% of ABC and Gulf of Mexico = 25% of ABC (South Atlantic ABC = 3,037,500 lbs whole weight and Gulf of Mexico ABC = 1,012,500 lbs whole weight); sector allocations of commercial = 52.56% and recreational = 47.44%; and a recreational sector ACT definition of ACL*(1-PSE) or ACL*0.5, whichever is greater, whereas the average percent standard error for MRFSS for yellowtail snapper during 2005-2009 is 13%.

The intent is for the ACLs to become effective for the 2013 fishing year and remain in effect each year until modified.

Alternative 3. For yellowtail snapper, establish ACL = OY = 90% of the ABC.

South Atlantic ACL following 90% buffer = 2,733,750
Commercial ACL = 1,436,859
Recreational ACL = 1,296,891
Recreational ACT = 1,128,295
(all values pounds whole weight and landings only)

Note: These values are based upon the results of the 2012 Stock Assessment Report for Yellowtail Snapper in the South Atlantic and Gulf of Mexico (2012); an ABC per the SSC recommendation and ABC Control Rule of 4,050,000 lbs whole weight; jurisdictional allocations of South Atlantic = 75% of ABC and Gulf of Mexico = 25% of ABC (South Atlantic ABC = 3,037,500 lbs whole weight and Gulf of Mexico ABC = 1,012,500 lbs whole weight); sector allocations of commercial = 52.56% and recreational = 47.44%; and a recreational sector ACT definition of ACL*(1-PSE) or ACL*0.5, whichever is greater, whereas the average percent standard error for MRFSS for yellowtail snapper during 2005-2009 is 13%.

The intent is for the ACLs to become effective for the 2013 fishing year and remain in effect each year until modified.

Alternative 4. For yellowtail snapper, establish ACL = OY = 80% of the ABC.

South Atlantic ACL following 80% buffer = 2,430,000
Commercial ACL = 1,277,208
Recreational ACL = 1,152,792
Recreational ACT = 1,002,929
(all values pounds whole weight and landings only)

Note: These values are based upon the results of the 2012 Stock Assessment Report for Yellowtail Snapper in the South Atlantic and Gulf of Mexico (2012); an ABC per the SSC recommendation and ABC Control Rule of 4,050,000 lbs whole weight; jurisdictional allocations of South Atlantic = 75% of ABC and Gulf of Mexico = 25% of ABC (South Atlantic ABC = 3,037,500 lbs whole weight and Gulf of Mexico ABC = 1,012,500 lbs whole weight); sector allocations of commercial = 52.56% and recreational = 47.44%; and a recreational sector ACT definition of ACL*(1-PSE) or ACL*0.5, whichever is greater, whereas the average percent standard error for MRFSS for yellowtail snapper during 2005-2009 is 13%.

The intent is for the ACLs to become effective for the 2013 fishing year and remain in effect each year until modified.

Preliminary Analyses

None have been conducted so far.

Action 2. Yellowtail Snapper: Commercial and Recreational Fishing Year and Spawning Season Closures

Alternative 1 (No Action). Retain the calendar year as the commercial and recreational fishing year for yellowtail snapper. Do not establish a spawning season closure for the commercial sector for yellowtail snapper.

Alternative 2. Modify the commercial fishing year for yellowtail snapper.

Sub-alternative 2a. Commercial fishing year begins on June 1 and ends on May 31.
Sub-alternative 2b. Commercial fishing year begins on July 1 and ends on June 30.
Sub-alternative 2c. Commercial fishing year begins on August 1 and ends on July 31.
Sub-alternative 2d. Commercial fishing year begins on September 1 and ends on August 31.

Alternative 3. Modify the recreational fishing year for yellowtail snapper.

Sub-alternative 3a. Recreational fishing year begins on June 1 and ends on May 31.
Sub-alternative 3b. Recreational fishing year begins on July 1 and ends on June 30.
Sub-alternative 3c. Recreational fishing year begins on August 1 and ends on July 31.
Sub-alternative 3d. Recreational fishing year begins on September 1 and ends on August 31.

Alternative 4. Establish a yellowtail snapper spawning season closure for the commercial sector.

Sub-alternative 4a. Prohibit commercial harvest of yellowtail snapper annually from April 1 to June 30.
Sub-alternative 4b. Prohibit commercial harvest of yellowtail snapper annually from June 1 to August 31.
Sub-alternative 4c. Prohibit commercial harvest of yellowtail snapper annually from April 1 to May 31.
Sub-alternative 4d. Prohibit commercial harvest of yellowtail snapper annually from June 1 to July 31.

Preliminary Analyses

The commercial fishing year for yellowtail snapper begins on January 1 and ends on December 31. **Alternative 1 (No Action)** would make no changes and the commercial fishing year, which would remain the calendar year. Average commercial landings for 2006-2011 were highest from March to July with the bulk of the landings in May and June (**Figure 1; Table 1**). **Alternative 2** and its sub-alternatives consider various start dates for the commercial fishing year. Starting the fishing year in June or July--as proposed under **Sub-alternatives 2a** and **2b**, respectively--would have the least biological benefit among the sub-alternatives, including **Alternative 1 (No Action)**, because fishing activity would commence during the spawning season. Yellowtail snapper spawn over a protracted period and spawning peaks at different times in different areas. In southeast Florida, spawning occurs during spring and summer (Grimes 1987). According to the latest assessment document (FWRI, 2012) yellowtail snapper spawn year-round in the Florida Keys but spawning peaks from April through August when spawning aggregations are reported to occur. **Alternative 1 (No Action)** provides some biological benefits to the yellowtail stock in south Florida since January is well past the peak of spawning activity. A fishing year start of August 1, as proposed under **Sub-alternative 2c**, would be biologically advantageous over fishing activity beginning in June or July, as under **Sub-alternatives 2a** and **2b**, respectively. However, the most biologically beneficial sub-alternative among the ones proposed, including **Alternative 1 (No Action)**, is **Sub-**

alternative 2d. Under this sub-alternative, commercial fishing activity would begin on September 1, after most of the spawning activity has taken place in south Florida and the Florida Keys, where yellowtail snapper are more prevalent and the bulk of the commercial harvest takes place.

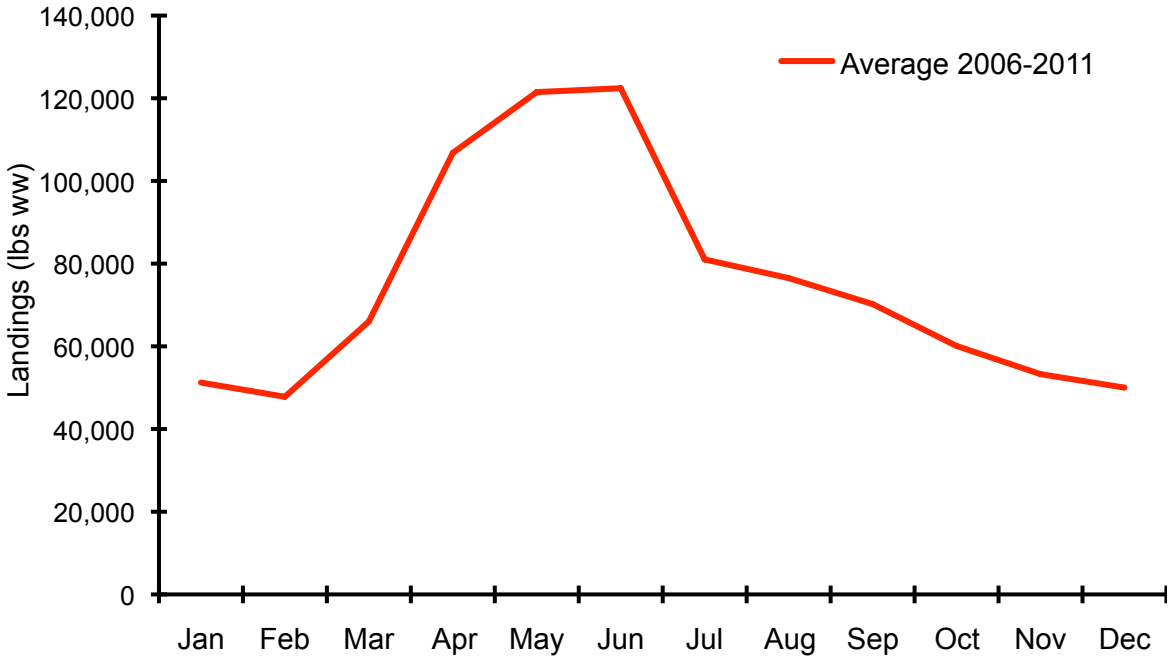

Figure 1. Average commercial landings of yellowtail snapper in the South Atlantic by month from 2006 through 2011. Source: Commercial ACL dataset, NMFS Southeast Regional Office.

Table 1. Average monthly commercial landings (pounds whole weight) for yellowtail snapper for the period 2006-2011. Source: Commercial ACL dataset, NMFS Southeast Regional Office.

Month	Pounds (ww)
January	51,237
February	47,804
March	66,008
April	106,781
May	121,490
June	122,427
July	81,011
August	76,514
September	70,222
October	60,090
November	53,274
December	50,015

Alternative 3 and its sub-alternatives consider options to change the start of the recreational fishing year, with the sub-alternatives mirroring those under **Alternative 2**. Average recreational landings from 2006-2001 (**Figure 2**), however, were more spread out over the summer months than average commercial landings (**Figure 1**) with a peak from mid-July to mid-August. The biological impacts of modifying the

recreational fishing year, therefore, would be similar to those resulting from a change in the commercial fishing year: **Alternative 1 (No Action)** and **Sub-alterantives 3a** and **3b** would be the least biologically advantageous because fishing activity would commence during the yellowtail snapper spawning season. **Sub-alterantives 3c** and **3d** would be the most bilogically beneficial because fishing activity would begin at the tail end of the spawning season.

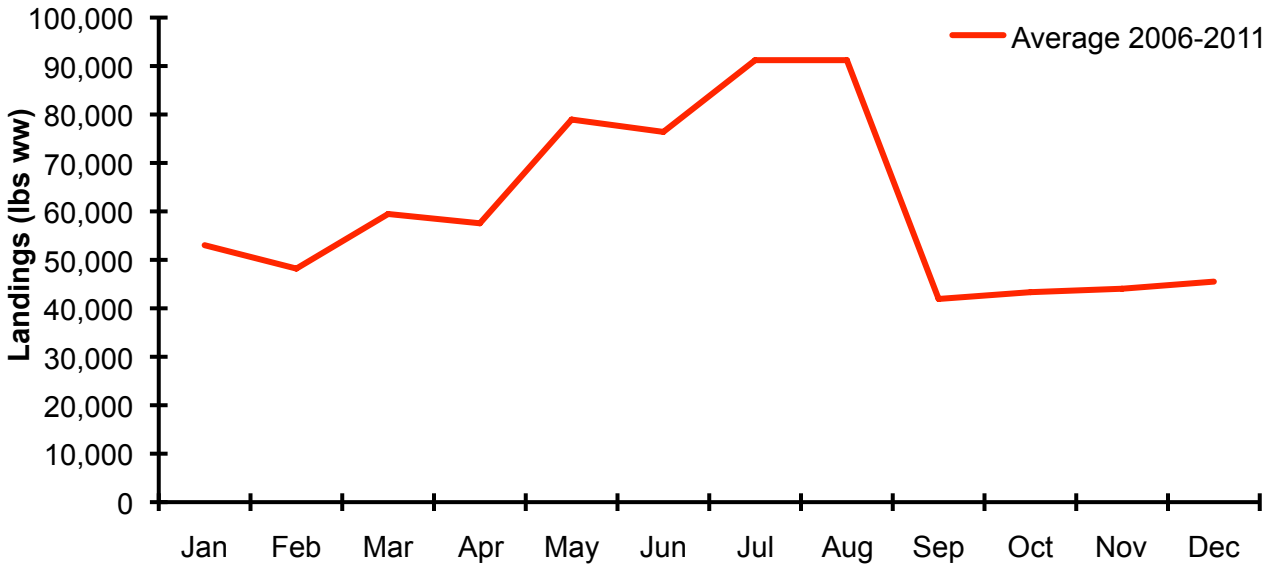

Figure 2. Average recreational landings of yellowtail snapper in the South Atlantic by month in from 2006 through 2011. Source: Marine Recreational Information Program (MRIP).

Alternative 4 and its sub-alternatives consider impememting a spawning season closure for the commercial sector only. As mentioned previously, yellowtail snapper have an extended spawning season, but most of the spawning activity in the area where the species is most abundant in South Atlantic waters is from April to August. Any of the proposed sub-alternatives would be more biologically beneficial than **Alternative 1 (No Action)**. Of the four sub-alternatives, **Sub-alternatives 4a** and **4b** would provide a longer hiatus in fishing activity and therefore result in greater biological benefits than those under **Sub-alternatives 4c** and **4d**. Without additional information on the intensity and geographic extent of spawning activity, however, it is difficult to gauge whether **Sub-alternatitve 4a** would be biologically advantageous over **Sub-alternative 4b**, or vice versa. It is likely that both alternatives would result in a similar level of biological impact.

Action 3. Gag and Shallow Water Groupers: Commercial Annual Catch Limit and Accountability Measures

Alternative 1 (No Action). Retain the gag ACL and the following three commercial AMs:
(1) If gag commercial landings, as estimated by the SRD, reach or are projected to reach the quota, the AA will file a notification with the Office of the Federal Register to close the commercial fishery for gag and all other South Atlantic shallow water grouper (SASWG) for the remainder of the fishing year. SASWG includes gag, black grouper, red grouper, scamp, red hind, rock hind, yellowmouth grouper, yellowfin grouper, graysby, and coney

(2) Individual ACLs and AMs are in place for black grouper, red grouper, and scamp. If the ACLs are projected to be met, the species are closed in-season. For red grouper, reduce the ACL by overages the following year. For black grouper and scamp, reduce the ACL by overages the following year if overfished.

(3) If commercial landings for other SASWG (including red hind, rock hind, yellowmouth grouper, yellowfin grouper, coney, and graysby), as estimated by the SRD, reach or are projected to reach the commercial ACL of 49,488 lb (22,447 kg), round weight, the AA will file a notification with the Office of the Federal Register to close the commercial sector for this complex for the remainder of the fishing year. On and after the effective date of such a notification, all sale or purchase of other SASWG is prohibited, and harvest or possession of these species in or from the South Atlantic EEZ is limited to the bag and possession limit. This bag and possession limit applies in the South Atlantic on board a vessel for which a valid Federal charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, without regard to where such species were harvested, i.e., in state or Federal waters. If commercial landings exceed the ACL, and at least one of the species in the other SASWG complex is overfished, based on the most recent status of U.S. Fisheries Report to Congress, the AA will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year to reduce the ACL for that following year by the amount of the overage in the prior fishing year.

The gag commercial ACL is 352,940 pounds gutted weight.

Alternative 2. Change the (1) AM as listed under the **Alternative 1 (No Action)** to the following:
If gag commercial landings, as estimated by the SRD, reach or are projected to reach the ACL, the AA will file a notification with the Office of the Federal Register to close the commercial fishery for gag for the remainder of the fishing year. Retain (2) and (3) of the commercial AMs as stated under **Alternative 1 (No Action)**.

Alternative 3. Change the (1) AM as listed under the **Alternative 1 (No Action)** to the following:
If gag commercial landings, as estimated by the SRD, reach or are projected to reach the ACL, the AA will file a notification with the Office of the Federal Register to close the commercial fishery for gag for the remainder of the fishing year. Retain (2) and (3) of the commercial AMs as stated under the **Alternative 1 (No Action)**. Reduce the current gag commercial ACL from 352,940 to XYZ pounds gutted weight to account for projected gag discard mortality from commercial trips that target co-occurring species (red grouper and scamp) following a projected gag closure.

Preliminary Analyses

A stock assessment completed in 2006 indicated gag was experiencing overfishing and was approaching an overfished condition (SEDAR 10 2006). Amendment 16 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 16; SAFMC 2009a) established management measures to end overfishing of gag. These measures included a four- month (January-April) spawning season closure of the recreational and commercial harvest of shallow water grouper species including gag, black grouper, red grouper, scamp, rock hind, red hind, coney, graysby, yellowfin grouper, yellowmouth grouper, and tiger grouper (removed from the FMP in 2011); a directed commercial ACL for gag; and a reduction in the recreational bag limits for shallow water grouper species. Also included was a provision to close all shallow water grouper species when the gag ACL was met or projected to be met. The intent of this action was to reduce incidental catch of gag. The gag ACL has never been met since it was implemented in 2009 and shallow water groupers have never been closed as a result.

Regulations implemented through the requirements of the Reauthorized Magnuson-Stevens Fishery Management and Conservation (Magnuson-Stevens) Act have placed restrictions on species that co-occur with gag and have likely been more effective in reducing incidental catch of gag than the provision to close shallow water grouper species when the gag quota is met. Additional protection to gag has been provided in the form of annual catch limits (ACLs) and accountability measures (AMs). Amendment 17B to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 17B; SAFMC 2010b) established ACLs and AMs for nine species in the South Atlantic snapper grouper fishery undergoing overfishing in 2009, including gag. Amendment 17B also established commercial and recreational ACLs and AMs for an aggregate of gag, red grouper, and black grouper. The Comprehensive ACL Amendment (SAFMC 2011c) established ACLs for snapper grouper species not undergoing overfishing including scamp as well as an aggregate of the remaining shallow water grouper species (rock hind, red hind, coney, graysby, yellowfin grouper, and yellowmouth grouper; **Table 2**).

Amendment 24 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 24; SAMFC 2011d) implemented individual ACLs and AMs (commercial and recreational) for red grouper and removed ACLs and AMs for the commercial and recreational gag-red grouper-black grouper aggregate. Amendment 24 also put in place a rebuilding plan for red grouper as an assessment completed in 2009 (SEDAR 19 2010) determined the stock was experiencing overfishing and was overfished. However, Amendment 24 indicated the four-month spawning season closure implemented through Amendment 16 was more than sufficient to end overfishing of red grouper. Furthermore, Amendment 17A to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region established a commercial and recreational ACL of 0 (landings only) for red snapper SAFMC 2010a).

Currently, among the shallow water grouper species, there are individual commercial and recreational ACLs and AMs for gag, red grouper, black grouper, and scamp. There is a commercial and recreational aggregate ACL for the remaining shallow water grouper species (rock hind, red hind, coney, graysby, yellowfin grouper, and yellowmouth grouper; **Table 2**). The commercial AM for these species is to prohibit harvest of the species when the ACL is met or expected to be met.

Table 2. Commercial and recreational ACLs for snapper grouper species.

Deep-Water	Comm.	Rec.	Shallow-Water Groupers	Comm.	Rec.
Yellowedge grouper	343,869 lbs ww	332,039 lbs ww	Red hind	49,488 lbs ww	48,329 lbs ww
Blueline tilefish			Rock hind		
Silk snapper			Coney		
Misty grouper			Graysby		
Queen snapper			Yellowfin grouper		
Sand tilefish			Yellowmouth grouper		
Black snapper			**Individual ACLs**	**Comm.**	**Rec.**
Blackfin snapper			Atlantic Spadefish	36,476 lbs ww	246,365 lbs ww
Jacks	**Comm.**	**Rec.**	Bar Jack	6,686 lbs ww	13,834 lbs ww
Almaco jack	193,999 lbs ww	261,490 lbs ww	Black grouper	90,575 lbs ww	155,020 lbs ww
Banded rudderfish			Blue Runner	188,329 lbs ww	1,101,612 lbs ww
Lesser amberjack			Goliath Grouper	0 lbs ww	0 lbs ww
Snappers	**Comm.**	**Rec.**	Gray Triggerfish	305,262 lbs ww	367,303 lbs ww
Cubera snapper	204,552 lbs ww	882,388 lbs ww	Greater Amberjack	800,163 lbs ww	1,167,837 lbs ww
Gray snapper			Hogfish	48,772 lbs ww	98,866 lbs ww
Lane snapper			Mutton Snapper	157,743 lbs ww	768,857 lbs ww
Dog snapper			Nassau Grouper	0 lbs ww	0 lbs ww
Mahogany snapper			Red porgy	197,652 lbs ww	197,652 lbs ww
Porgies	**Comm.**	**Rec.**	Scamp	341,636 lbs ww	150,936 lbs ww
Jolthead porgy	35,129 lbs ww	112,485 lbs ww	Wreckfish	237,500 lbs ww	12,500 lbs ww
Knobbed porgy			Yellowtail Snapper	1,142,657 lbs ww	1,031,218 lbs ww
Saucereye porgy			Red Grouper	284,680 lbs ww	362,320 lbs ww
Whitebone porgy			Snowy Grouper	82,900 lbs gw	523 fish
Scup			Warsaw Grouper	0 lbs ww	0 lbs ww
Grunts	**Comm.**	**Rec.**	Black Sea Bass	309,000 lbs gw	409,000 lbs gw
White grunt*	214,624 lbs ww	562,151 lbs ww	Speckled Hind	0 lbs ww	0 lbs ww
Margate			Golden Tilefish	541,295 lbs gw	3,019 fish
Sailor's choice			Black Grouper	90,575 lbs ww	155,020 lbs ww
Tomtate			Gag	352,940 lbs gw	340,060 lbs gw
			Red Snapper	0 lbs gw	0 lbs gw
			Vermilion Snapper	315,523 lbs gw	307,315 lbs gw
				302,523 lbs gw	

Data from the Southeast Fisheries Science Center logbook program (accessed 6 May 2010) were analyzed to identify species that are commonly caught together, including those caught with gag. Analyses of commercial logbook data were restricted to 2005-2009, because depth of capture, reported from 2005 onward, is an important consideration when evaluating similarities in fisheries vulnerability. Gag are primarily taken with vertical hook and line gear on commercial trips. Based on the evaluation of 136,005 commercial vertical line logbook records from 2005-2009, gag are most commonly taken with red porgy, red snapper, vermilion snapper, gray triggerfish, red grouper, scamp, and almaco jack (**Figure 3**) and are not commonly taken with many shallow water grouper species (black grouper, rock hind, red hind, coney, graysby, yellowfin grouper, yellowmouth grouper).

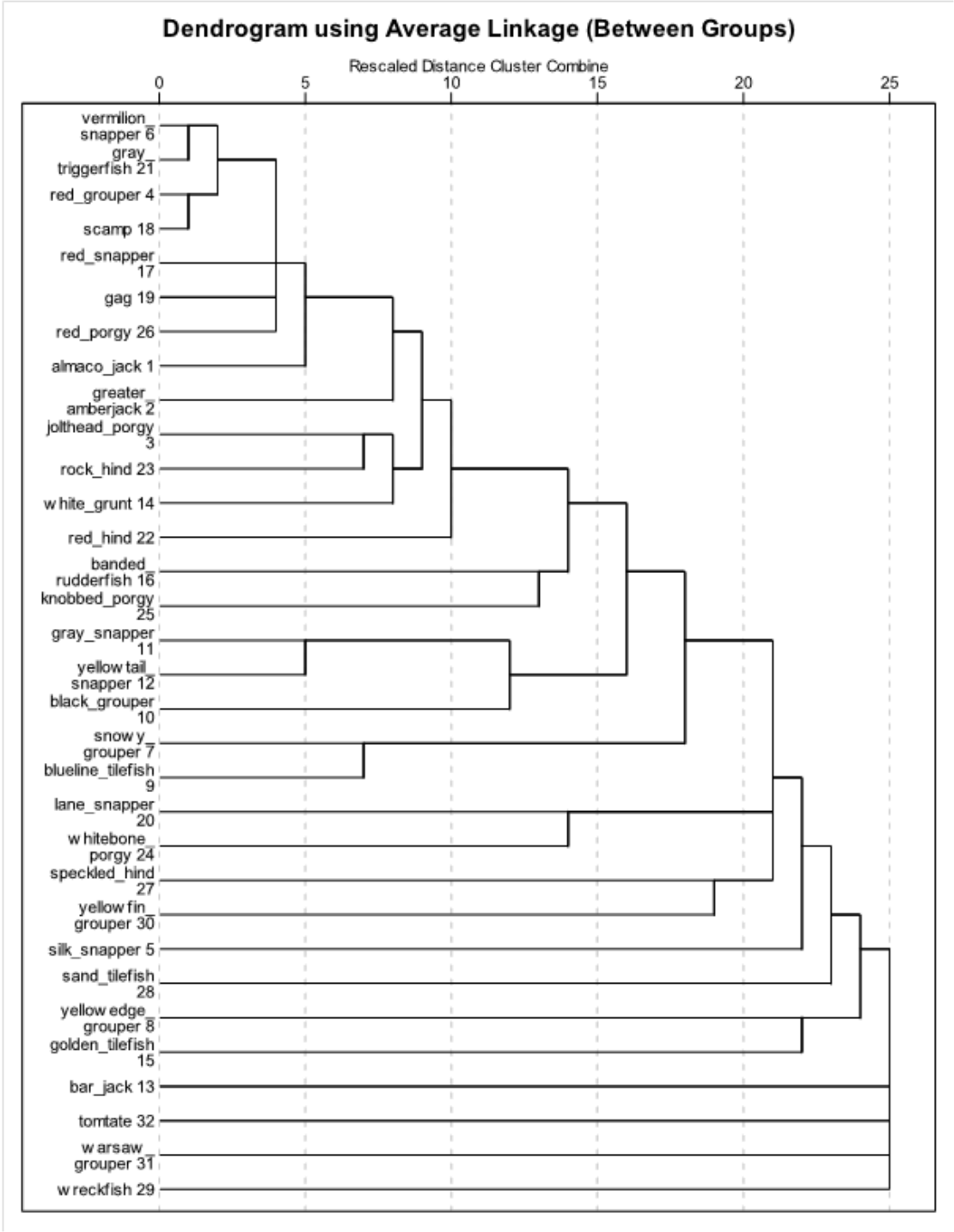

Figure 3. Hierarchical cluster analysis of species presence-absence in the snapper grouper commercial vertical line landings aggregated by year, month, area, and depth.
(Linkage Method: Between (Average), Dissimilarity Measure: Sørenson (Binary)). Numbers denote case numbers. From SERO-LAPP-2010-06.

Harvest of four co-occurring species (gag, red grouper, scamp, and red porgy (commercial only)) is prohibited during January-April of each year. Amendment 16 implemented the four-month spawning season closure for the shallow water grouper species, which includes gag, red grouper, and scamp, and Amendment 12 to the FMP to the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 2000) established the four-month commercial spawning season closure for red porgy and restricted recreational harvest to 1 fish per day. Furthermore, as a result of the implementation of ACLs through the

Reauthorized Magnuson-Stevens Act, closures have occurred for many of the main species that co-occur with gag including red snapper, vermilion snapper, gray triggerfish, and almaco jack. In response to an assessment (SEDAR 24 2010), which indicated red snapper were experiencing overfishing and are overfished, a harvest and possession prohibition of red snapper was implemented on January 4, 2010. Through Amendment 17A, the harvest prohibition of red snapper was continued with the specification of an ACL = 0 (landed catch only). A small commercial (7 days) and recreational (6 days) fishing season occurred in 2012 to allow for a very small amount of red snapper harvest (13,067 fish). A January-June 315,523 pound gutted weight (gw) ACL, and July-December 305,523 pound gw ACL has been in place for vermilion snapper since 2009. Closures of vermilion snapper have occurred on September 18, 2009; October 6, 2010; March 10, 2011; September 30, 2011; February 29, 2012; and September 28, 2012. Commercial ACLs were established for gray triggerfish and almaco jack on April 16, 2012. Gray triggerfish closed on September 11, 2012, and the Jacks Complex, which includes almaco jack, lesser amberjack, and banded rudderfish, closed on July 2, 2012.

The spawning season and in-season closures of species that co-occur with gag may be responsible for the low rate of commercial discards. Examination of discard logbook data shows that the rate (# of fish per hook hour) of discarded gag was very low in 2007-2010, and decreased in 2011 (**Figure 4**). As the gag quota has never been met, the decline in discards is not due to closing shallow water species when the gag quota is met, and is likely a result of other management measures that have reduced fishing effort on gag and co-occurring species.

Alternative 1 (No Action) established through Amendment 16 (SAFMC 2009a) to close all shallow water grouper species when the gag quota is met, is not having the intended effect of reducing incidental catch of gag. The gag quota has never been met and, as mentioned previously, most of the shallow water grouper species are not taken on the same trip as gag. The ACLs and AMs established for snapper grouper species in Amendment 17B, the Comprehensive ACL Amendment, Amendment 24, and Amendment 17A, along with the four-month shallow water grouper spawning season closure, are providing greater protection for gag than the closure of shallow water grouper species when the gag quota is met, as specified in **Alternative 1 (No Action)**. The gag quota could be met in fall 2012 and result in a closure of all the shallow water grouper species. While any closure would be expected to have positive biological effects on gag and other snapper grouper species, measures implemented since Amendment 16 appear to be reducing incidental catch of gag. Therefore, retention of the **Alternative 1 (No Action)** provision to close all shallow water grouper species when the gag quota is met could have unnecessary economic and social impacts as it is not likely needed to ensure overfishing of gag does not occur.

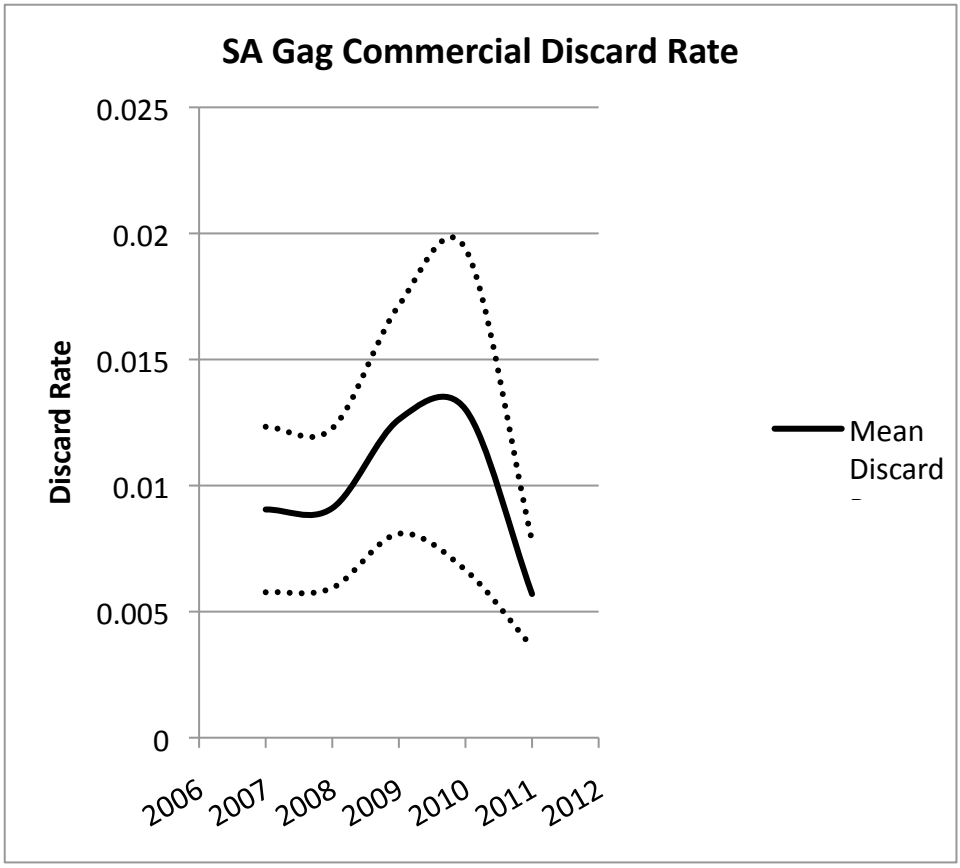

Figure 4. Mean discard rate (# fish/hook hour) for gag from commercial discard logbook data.