12/17/14

Modifications to Gulf Reef Fish and South Atlantic Snapper Grouper Fishery Management Plans

Draft Joint Generic Amendment
For Discussion at the Joint Council Committee on South Florida Management Issues

December 2014

This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA10NMF4410011.

This page intentionally blank

COVER SHEET

Name of Action

Draft Joint Generic Amendment to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico and to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region

Responsible Agencies and Contact Persons

Gulf of Mexico Fishery Management Council
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
Carrie Simmons (carrie.simmons@gulfcouncil.org)

813-348-1630
813-348-1711 (fax)
gulfcouncil@gulfcouncil.org
http://www.gulfcouncil.org

South Atlantic Fisheries Management Council
4055 Faber Place Drive, Suite 201
North Charleston, SC 2940
Gregg Waugh (gregg.waugh@safmc.net)

843-571-4366
843-769-4520 (fax)
http://www.safmc.net

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
John McGovern (john.mcgovern@noaa.gov)

727-824-5305
727-824-5308 (fax)
http://sero.nmfs.noaa.gov

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

1.1 Background

The Joint Council Committee on South Florida Management Issues (Joint Council Committee) was formed in response to a South Atlantic Fishery Management Council (South Atlantic Council) motion in June 2011. The group was first convened in January of 2014 to begin discussing management needs of South Florida species. There were several recommendations from the Joint Council Committee that were considered by the Joint Council Committee in July 2014, where revised recommendations were proffered and are reflected in this document. Prior to the Joint Council Committee meetings, the Florida Fish and Wildlife Commission (FL FWC) held a series of South Florida workshops in August of 2013. The results of these workshops were discussed at the January 2014 Joint Council Committee meeting and the full summaries are in Appendix A.

1.2 Purpose and Goals

The purpose of this document is to minimize conflicting regulations for South Florida species in the Gulf of Mexico, South Atlantic, and State of Florida waters. The Gulf of Mexico Fishery Management Council (Gulf Council) and South Atlantic Council initiated this document in coordination with the FL FWC based on ongoing requests from South Florida fishing communities. Currently, some fishing regulations differ between the Gulf and South Atlantic Council waters and in some cases, state and adjacent federal waters. This makes it difficult for fishermen to abide by different regulations in the South Florida area, particularly the Florida Keys, where anglers can fish in multiple jurisdictions within one trip.

The goal of this document and the Joint Council Committee is to provide guidance in determining the best solutions for fisheries management issues that are unique to South Florida. The Joint Council Committee could determine solutions by species, region, and/or sector based on current respective Gulf and South Atlantic Council regulations and management programs.

CHAPTER 2. DRAFT MANAGEMENT ALTERNATIVES

Action 1: Modifications to the Fishery Management Plans of the Gulf and South Atlantic Fishery Management Councils

Alternative 1: No action. Do not modify the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Alternative 2: Delegate specific management measures, with the exception of annual catch limits and accountability measures, for any of the species listed below to the State of Florida.

Option 2a: yellowtail snapper
Option 2b: mutton snapper
Option 2c: black grouper recreational fishery only

Alternative 3: Manage each stock as a single unit with an overall combined multijurisdictional annual catch limits (ACLs).

Option 3a: yellowtail snapper
Option 3b: mutton snapper
Option 3c: black grouper

Alternative 4: Remove any of the species listed below from the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Option 4a: yellowtail snapper
Option 4b: mutton snapper
Option 4c: black grouper

Alternative 5: Remove any of the species listed below from the Reef Fish Fishery Management Plan of the Gulf Council and request the Secretary of Commerce designate the South Atlantic Council as the responsible Council.

Option 5a: yellowtail snapper
Option 5b: mutton snapper

Alternative 6: Remove any of the species listed below from the Snapper Grouper Fishery Management Plan of the South Atlantic Council and request the Secretary of Commerce designate the Gulf Council as the responsible Council.

Option 6a: yellowtail snapper
Option 6b: mutton snapper

Discussion

Black grouper, mutton snapper, and yellowtail snapper occur in both the Gulf of Mexico (Gulf) and South Atlantic portions of the Florida Keys. Individuals who fish for these species in South Florida find it confusing to have different management measures including annual catch limits (ACLs) and accountability measures (AMs) for the same species in the jurisdictional areas of the Gulf of Mexico Fishery Management Council (Gulf Council) and the South Atlantic Fishery

Management Council (South Atlantic Council). Furthermore, it is difficult for law enforcement personnel to enforce different regulations for the same species in South Florida.

The Councils have suggested modifications to the fishery management units (FMU) in the two areas to help address confusion associated with different regulations in the two areas. Five possible methods to adjust the fishery management units are being considered by the Councils in Action 1. The Councils could decide to use different options for different species, and not manage each species the same way. When considering the options, the Councils need to consider federal fishery permit and enforcement issues. Different methods to be considered could depend to some degree on the proportion of landings that occur in waters of Florida.

Examination of data in **Tables 1** and **2** shows that commercial and recreational landings of black grouper, mutton snapper, and yellowtail snapper are almost entirely taken off Florida.

Alternative 2 would delegate management of any of the three species to the State of Florida. The Councils would retain South Florida species in their existing fishery management plans (FMP) and delegate management of the South Florida species to Florida under section 306(a)(3)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). That section of the Magnuson-Stevens Act requires a state's laws and regulations to be consistent with the FMP(s). This option is less complicated if the species only occurs off Florida.

Alternative 3 considers managing each stock as a single unit with an overall combined multijurisdictional ACL. Any or all of these species would be retained in the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively. This alternative would allow for fishing to continue in both Councils' jurisdictions until the ACL is reached or is projected to be reached.

Alternative 4 considers the removal of species from the FMP for the Reef Fish Resources of the Gulf of Mexico and the FMP for the Snapper Grouper Fishery of the South Atlantic Region, and would let Florida manage Florida registered vessels in the exclusive economic zone off Florida under section 306(a)(3)(A) of the Magnuson-Stevens Act. National Marine Fishery Service (NMFS) guidelines to define fishery management units in FMPs specify that they may be organized around biological, geographic, economic, technical, social, or ecological goals (50 CFR §600.320(d)(1)). NMFS guidelines for determining whether to include species in an FMU for purposes of federal conservation and management direct the Councils to consider the following seven factors (50 CFR §600.340(b)(2)):

1. The importance of the fishery to the Nation and the regional economy;
2. Whether an FMP can improve the condition of the stock;
3. The extent to which the fishery could be or already is adequately managed by states;
4. Whether an FMP can further the resolution of competing interests and conflicts;
5. Whether an FMP can produce more efficient utilization of the fishery;
6. Whether an FMP can foster orderly growth of a developing fishery; and
7. Costs of the FMP balanced against benefits.

Alternative 5 considers the removal of species from the FMP for the Reef Fish Resources of the Gulf of Mexico and requests that the Secretary of Commerce designate the South Atlantic Council as the responsible Council to manage the selected South Florida species in both Councils' jurisdictions. The Councils would then request the Secretary of Commerce to extend the authority of the South Atlantic Council into the Gulf Council's area of jurisdiction for those species. The South Atlantic Council would amend their existing FMP(s) to standardize the management measures. This is similar to what the Councils recently did for Nassau grouper.

Table 1. Mean percent of commercial landings (lb ww) by species and state, 2008-2012.

Species	FL	AL	GA	LA	MS	NC	SC	TX
yellowtail snapper	99.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
mutton snapper	97.5%	0.0%	0.1%	0.0%	0.0%	0.6%	1.7%	0.0%
black grouper	93.6%	0.7%	0.0%	0.5%	0.0%	0.2%	2.0%	3.0%

Table 2. Mean percent of recreational landings (lb ww) by species and state, 2008-2012.

Species	FL	AL	GA	LA	MS	NC	SC	TX
yellowtail snapper	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
mutton snapper	99.9%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
black grouper	96.8%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%

Alternative 6 would remove yellowtail snapper (**Option 6a**) and/or mutton snapper (**Option 6b**) from the Snapper Grouper Fishery Management Plan of the South Atlantic Council and request the Secretary of Commerce designate the Gulf Council as the responsible Council. This alternative is similar to **Alternative 5**, except that the Councils would request the Secretary of Commerce to extend the authority of the Gulf Council into the South Atlantic Council's area of jurisdiction for the selected species. The Gulf Council would amend their existing FMP to standardize management measures.

Action 2: Delegate Commercial and Recreational Management of Yellowtail Snapper to the State of Florida

***Note:** The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 2 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1: No action. Do not delegate management of yellowtail snapper in the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Alternative 2: Determine specific recreational management items for delegation to the State of Florida for yellowtail snapper:

Option 2a: Size limits

Option 2b: Seasons
Option 2c: Bag limits
Option 2d: Minor modifications to existing allowable gear (Re: circle hook requirement)
Option 2e: Fishing year

Alternative 3: Determine specific commercial management items for delegation to the State of Florida for yellowtail snapper:

Option 3a: Size limits
Option 3b: Seasons
Option 3c: Commercial trip limits
Option 3d: Minor modifications to existing allowable gear (Re: circle hook requirement)
Option 3e: Fishing year

Discussion

This action considers alternatives that would delegate the management of yellowtail snapper to the State of Florida for the recreational (**Alternative 2**) and/or commercial (**Alternative 3**) fisheries. **Tables 1** and **2** reveal that harvest of yellowtail snapper is almost entirely from Florida.

Alternative 2 would determine specific recreational management items for delegation to the State of Florida for yellowtail snapper, including: **Option 2a**- size limits; **Option 2b**- seasons; **Option 2c**- bag limits; **Option 2d**- minor modifications to existing gear; and **Option 2e**- fishing year. Multiple options may be selected as preferred for this alternative, thereby delegating one or multiple facets of recreational fisheries management to the State of Florida. The Councils would remain responsible for setting ACLs and implementing AMs, as defined in the Magnuson-Stevens Act.

Alternative 3 would determine specific commercial management items for delegation to the State of Florida for yellowtail snapper, including: **Option 3a**- size limits; **Option 3b**- seasons; **Option 3c**- bag limits; **Option 3d**- minor modifications to existing gear; and **Option 3e**- fishing year. Multiple options may be selected as preferred for this alternative, thereby delegating one or multiple facets of commercial fisheries management to the State of Florida. The Councils would remain responsible for setting ACLs and implementing AMs, as defined in the Magnuson-Stevens Act.

IPT Note: *The Committee may wish to consider requiring the State of Florida to submit a management plan for those species for which management has been delegated from the Councils, prior to the Councils recommending such action to the Secretary of Commerce.*

Action 3: Allocate Yellowtail Snapper Sector Annual Catch Limits to the State of Florida and Create a Landings Allowance for other Gulf and South Atlantic States

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 3 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1. No action. Maintain the current commercial and recreational ACLs for yellowtail snapper based on the South Atlantic Council's Snapper Grouper Fishery Management Plan and maintain the current total ACL for yellowtail snapper in the Gulf based on the Reef Fish FMP.

Alternative 2. Use both Council's agreed upon ABC for yellowtail snapper and allocate the commercial and recreational ACLs for the Gulf and South Atlantic:

Option 2a: Use the South Atlantic Council's current sector allocation formula (bowtie approach): divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008.

Option 2b: Use the following sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013.

Option 2c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 2d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 2e: Employ some other allocation formula

Alternative 3. Use both Council's agreed upon ABC for yellowtail snapper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 75% of the ABC for South Atlantic Council jurisdictional waters, and 25% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida:

Option 3a: Use the South Atlantic Council's current sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008.

Option 3b: Use the following sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013.

Option 3c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 3d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 3e: Employ some other allocation formula

Alternative 4. Create a landings allowance for yellowtail snapper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC).

Option 4a: Adjust ABC by 1% to address landings in the other Gulf and South Atlantic States.
Option 4b: Adjust ABC by 2% to address landings in the other Gulf and South Atlantic States.

Discussion

This action would allocate yellowtail snapper sector ACLs to the State of Florida and create a landings allowance for other Gulf and South Atlantic states. This would allow the State of Florida to monitor landings by sector and close the appropriate sector once its allocation is reached or is projected to be reached.

Alternative 2 would use both Council's agreed upon acceptable biological catch (ABC) for yellowtail snapper and allocate the commercial and recreational ACLs for the Gulf and South Atlantic using one of the time period options offered. **Option 2a** would use the South Atlantic Council's current sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008. **Option 2a** places a greater weighing proportionally on the 2006-2008 time period, since it is counted twice. The resulting individual weightings from **Option 2a** yield individual weights of 2.17% for each year from 1986-2005, and 18.84% for each year from 2006-2008. **Option 2b** would divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013. **Option 2c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 2d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 2e** would employ some other formula to determine sector allocations.

Alternative 3 would use both Council's agreed upon ABC for yellowtail snapper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 75% of the ABC for South Atlantic Council jurisdictional waters, and 25% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida. **Option 3a** would use the South Atlantic Council's current sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008 (please note the clarification of the actual weightings yielded from the "bowtie approach" as noted in the discussion of **Alternative 2**). **Option 3b** would divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013. **Option 3c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 3d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 3e** would employ some other formula to determine sector allocations.

Alternative 4 would create a landings allowance for yellowtail snapper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC). **Option 4a** would adjust the ABC by 1% to address landings of yellowtail snapper in the other Gulf and South Atlantic States, while **Option 4b** would adjust the ABC by 2%. **Table 3** shows the proportion of the total ACL allocated among 3 regions for yellowtail snapper based on data from 2008-2012.

Table 3. Proportion of the total ACL allocated among 3 regions for yellowtail snapper based on data from 2008-2012.

Alt 4	FL	Gulf	SA
yellowtail snapper	99.9%	0.0%	0.0%

Action 4: Delegate Commercial and Recreational Management of Mutton Snapper to the State of Florida

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 4 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1: No action. Retain management of Mutton Snapper in the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Alternative 2: Determine specific recreational management items for delegation to the State of Florida for Mutton Snapper:

Option 2a: Size limits
Option 2b: Seasons
Option 2c: Bag limits
Option 2d: Minor modifications to existing allowable gear

Alternative 3: Determine specific commercial management items for delegation to the State of Florida for Mutton Snapper:

Option 3a: Size limits
Option 3b: Seasons
Option 3c: Commercial trip limits
Option 3d: Minor modifications to existing allowable gear

Discussion

This action considers alternatives that would delegate the management of mutton snapper to the State of Florida for the recreational (**Alternative 2**) and/or commercial (**Alternative 3**) fisheries. **Tables 1** and **2** reveal that harvest of mutton snapper is almost entirely from Florida.

Alternative 2 would determine specific recreational management items for delegation to the State of Florida for mutton snapper, including: **Option 2a**- size limits; **Option 2b**- seasons;

Option 2c- bag limits; and **Option 2d**- minor modifications to existing gear. Multiple options may be selected as preferred for this alternative, thereby delegating one or multiple facets of recreational fisheries management to the State of Florida. The Councils would remain responsible for setting ACLs and implementing AMs, as defined in the Magnuson-Stevens Act.

Alternative 3 would determine specific commercial management items for delegation to the State of Florida for mutton snapper, including: **Option 3a**- size limits; **Option 3b**- seasons; **Option 3c**- bag limits; and **Option 3d**- minor modifications to existing gear. Multiple options may be selected as preferred for this alternative, thereby delegating one or multiple facets of commercial fisheries management to the State of Florida. The Councils would remain responsible for setting ACLs and implementing AMs, as defined in the Magnuson-Stevens Act.

Action 5: Allocate Mutton Snapper Sector Annual Catch Limits to the State of Florida and Create a Bycatch Allowance for other Gulf and South Atlantic States

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 5 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1. No action. Maintain the current commercial and recreational ACLs for mutton snapper based on the South Atlantic Councils Snapper Grouper Fishery Management Plan and maintain the current total ACL for mutton snapper in the Gulf based on the Reef Fish FMP.

Alternative 2. Use both Council's agreed upon ABC for mutton snapper and allocate the commercial and recreational ACLs for the Gulf and South Atlantic:

Option 2a: Use the South Atlantic Council's current sector allocation formula (bowtie approach): divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008.

Option 2b: Use the following sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013.

Option 2c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 2d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 2e: Employ some other allocation formula

Alternative 3. Use both Council's agreed upon ABC for mutton snapper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 82% of the ABC for South Atlantic Council jurisdictional waters, and 18% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the

subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida:

Option 3a: Use the South Atlantic Council's current sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008.

Option 3b: Use the following sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013.

Option 3c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 3d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 3e: Employ some other allocation formula

Alternative 4. Create a landings allowance for mutton snapper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC).

Option 4a: Adjust ABC by 1% to address landings in the other Gulf and South Atlantic States.

Option 4b: Adjust ABC by 2% to address landings in the other Gulf and South Atlantic States.

Discussion

This action would allocate mutton snapper sector annual catch limits to the State of Florida and create a bycatch allowance for other Gulf and South Atlantic states. This would allow the State of Florida to monitor landings by sector and close the appropriate sector once its allocation is reached or is projected to be reached.

Alternative 2 would use both Council's agreed upon acceptable biological catch (ABC) for mutton snapper and allocate the commercial and recreational ACLs for the Gulf and South Atlantic using one of the time period options offered. **Option 2a** would use the South Atlantic Council's current sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008. **Option 2a** places a greater weighing proportionally on the 2006-2008 time period, since it is counted twice. The resulting individual weightings from **Option 2a** yield individual weights of 2.17% for each year from 1986-2005, and 18.84% for each year from 2006-2008. **Option 2b** would divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013. **Option 2c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 2d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 2e** would employ some other formula to determine sector allocations.

Alternative 3 would use both Council's agreed upon ABC for mutton snapper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 82% of the ABC for South Atlantic Council jurisdictional waters, and 18% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida. **Option 3a** would use the South Atlantic Council's current sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1986-2008, and 50% on the mean of the landings from 2006-2008 (please note the clarification of the actual weightings yielded from the "bowtie approach" as noted in the discussion of **Alternative 2**). **Option 3b** would divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013. **Option 3c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 3d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 3e** would employ some other formula to determine sector allocations.

Alternative 4 would create a landings allowance for mutton snapper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC). **Option 4a** would adjust the ABC by 1% to address landings of mutton snapper in the other Gulf and South Atlantic States, while **Option 4b** would adjust the ABC by 2%. **Table 4** shows the proportion of the total ACL allocated among 3 regions for mutton snapper based on data from 2008-2012.

Table 4. Proportion of the total ACL allocated among 3 regions for mutton snapper based on data from 2008-2012.

Alt 4	FL	Gulf	SA
mutton snapper	99.4%	0.1%	0.5%

Action 6. Mutton snapper recreational bag limit in Gulf of Mexico and South Atlantic

***Note:** The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 6 will only be a viable option if Alternative 1, 2, or 3 from Action 1 is selected as preferred.*

Alternative 1: No action. Mutton snapper is part of the aggregate 10 snapper bag limit in the Gulf of Mexico and the South Atlantic.

Alternative 2: Remove mutton snapper from the recreational aggregate bag limit and change the recreational bag limit for mutton snapper during the regular season (July-April) and during the spawning season (May-June).

Option 2a: 10 fish/person/day in the regular season, 2 fish/person/day during the spawning season

Option 2b: 5 fish/person/day in the regular season, 2 fish/person/day during the spawning season

Alternative 3: Retain mutton snapper within the aggregate 10 snapper bag limit in the Gulf of Mexico and the South Atlantic, but specify bag limits for mutton snapper within the snapper recreational aggregate bag limit during the regular season (July-April) and during the spawning season (May-June).

Option 3a: Within the aggregate snapper bag limit, no more than 10 fish/person/day in the regular season and no more than 2 fish/person/day during the spawning season may be mutton snapper.

Option 3b: Within the aggregate snapper bag limit, no more than 5 fish/person/day in the regular season and no more than 2 fish/person/day during the spawning season may be mutton snapper.

***Note**: In the Gulf of Mexico, the 10 snapper-per-person aggregate includes all snapper species in the reef fish management unit except red snapper, vermilion snapper, and lane snapper (**Table 5**). In the South Atlantic, the 10 snapper-per-person aggregate includes all snapper species in the snapper grouper management unit except red snapper and vermilion snapper (**Table 5**). Cubera snapper less than 30" total length (TL) are included in the 10 fish bag limit. The aggregate 10 snapper bag limit includes a maximum of 2 cubera snapper per person (not to exceed 2 per/vessel) for fish 30" TL or larger off Florida.*

***Note**: State of Florida has the same regulations for the recreational sector as both Councils; however, the commercial sector in state waters is managed using regulations identical to the South Atlantic Council's commercial regulations.*

Discussion

According to the most recent stock assessment of mutton snapper in the southeastern United States (SEDAR 15A, 2008), mutton snapper are neither overfished ($SSB_{2006}/SSB_{30\%SPR} = 1.14$) nor experiencing overfishing ($F_{2006}/F_{30\%SPR} = 0.51$). An update stock assessment of mutton snapper is expected to be made available to the Councils by April 2015. Despite the healthy status of the mutton snapper stock, there is concern by the public regarding fishing effort on mutton snapper spawning aggregations during the May-June peak spawning season in the Florida Keys. In 2010, the Snapper Grouper Advisory Panel (AP) recommended that the South Atlantic Council consider a spawning area closure or a seasonal closure in May and June of each year. Furthermore, the AP recommended that the mutton snapper bag limit be reduced to 3 fish per person per day.

Currently, mutton snapper is part of the 10 snapper aggregate in the Gulf and South Atlantic (**Table 5**). During May-June, the commercial sector in the South Atlantic is restricted to 10 mutton snapper per day or 10 mutton snapper per trip, whichever is more restrictive. The commercial sector in the Gulf has no bag limit or trip limit restrictions during the mutton snapper peak spawning season. There is no bag or trip limit for the commercial sector in the Gulf or South Atlantic during the July-April regular season. Current regulations for mutton snapper in the Gulf and South Atlantic are shown in **Table 6**.

Table 5. Composition of the 10 snapper aggregate in the Gulf and South Atlantic.

Gulf of Mexico	South Atlantic
Gray snapper	Gray snapper
Mutton snapper	Mutton snapper
Yellowtail snapper	Yellowtail snapper
Cubera snapper	Cubera snapper
Queen snapper	Queen snapper
Blackfin snapper	Blackfin snapper
Silk snapper	Silk snapper
Wenchman	Dog snapper
	Lane snapper
	Mahogany snapper

Table 6. Current fishing regulations in the Gulf of Mexico and the South Atlantic for mutton snapper (June 2014).

Mutton Snapper Management by Region				
Council	**Sector**	**Size Limit**	**Bag Limit**	**Notes**
Gulf	Recreational	16" TL	10 fish/person/day	Included in 10 snapper aggregate bag limit
	Commercial	16" TL	None	No trip limit
South Atlantic	Recreational	16" TL	10 fish/person/day	Included in 10 snapper aggregate bag limit
	Commercial	16" TL	None during July-April each year; 10 fish/person/day or per trip during May-June	During May-June, restricted to 10 fish/person/day or per trip, whichever is more restrictive

Examination of mutton snapper recreational landings reveals that there was a peak during the May-June spawning season (Wave 3) in the South Atlantic during 2012 and 2013 (**Table 7**). Impacts of various bag limits for 2011-2013 are shown in **Table 8** for the headboat sector and **Table 9** for the private/charter sector. The main difference between **Alternatives 2** and **3** is that **Alternative 2** removes mutton snapper from the snapper recreational aggregate bag limit, while **Alternative 3** retains mutton snapper within the snapper recreational aggregate bag limit. Both **Alternatives 2** and **3** establish specific bag limits for mutton snapper during the regular and spawning seasons, respectively. For both alternatives, **Option 2/3a** considers maintaining the recreational bag limit of 10 fish/person/day during the July-April regular season, and reducing the recreational bag limit to 2 fish/person/day during the spawning season. **Option 2/3a** would be expected to reduce recreational harvest during the May-June (Wave 3) spawning season by 22% for the headboat sector and 16% for the private/charter sector; however, there would be no reduction in recreational harvest during July-April (**Tables 10** and **11**). **Option 2/3b** would specify a 5 fish/person/day for the recreational sector during July-April, and 2 fish/person/day during the May-June spawning season. **Option 2/3b** would be expected to reduce recreational

harvest during the regular season by 6% for the headboat sector, and 1% for the private/charter sectors. A 2 fish/person/day spawning season recreational bag limit would be expected to reduce harvest by 22% and 16% for the headboat and private/charter sectors, respectively during the May-June spawning season (**Tables 10** and **11**). If **Alternative 2** is selected by itself, it could potentially increase the opportunity for the recreational harvest of the snapper species still included as part of the snapper recreational aggregate bag limit.

Table 7. South Atlantic recreational (private, charter, headboat) mutton snapper landings by wave. Source: http://sero.nmfs.noaa.gov/sustainable_fisheries/acl_monitoring/index.html.

Year	1	2	3	4	5	6	Total
2012	46,282	102,210	182,880	77,015	27,275	34,366	470,028
2013	50,961	36,208	175,774	91,913	90,689	36,186	481,731

Table 8. Percent of status quo harvest remaining under various bag limits for Gulf and South Atlantic **headboat-harvested** mutton snapper.

Year	Status Quo (10)	1	2	3	4	5	6	7	8	9
2011	100%	64%	77%	86%	91%	95%	97%	99%	99%	100%
2012	100%	57%	69%	78%	85%	91%	94%	96%	98%	98%
2013	100%	67%	79%	87%	92%	95%	97%	98%	98%	99%
Mean 11-13	**100%**	**63%**	**75%**	**84%**	**90%**	**93%**	**96%**	**98%**	**98%**	**99%**

Table 9. Percent of status quo harvest remaining under various bag limits for Gulf and South Atlantic **private/charter-harvested** mutton snapper.

Year	Status Quo (10)	1	2	3	4	5	6	7	8	9
2011	100%	76%	90%	93%	94%	95%	95%	96%	97%	97%
2012	100%	78%	88%	91%	94%	95%	96%	97%	98%	99%
2013	100%	78%	88%	91%	94%	95%	96%	97%	98%	99%
Mean 11-13	**100%**	**77%**	**89%**	**92%**	**94%**	**95%**	**96%**	**96%**	**97%**	**98%**

Table 10. Percent of status quo harvest remaining under various bag limits for Gulf and South Atlantic **headboat-harvested** mutton snapper for Wave 3 (May-June) during 2011-2013, Waves 1,2,4,5, and 6 combined during 2011-2013, and Waves 1-6 during 2011-2013.

Waves	Status Quo (10)	1	2	3	4	5	6	7	8	9
Wave 3	100%	67%	78%	85%	90%	93%	96%	97%	99%	99%
Waves 1,2,4,5,6	100%	61%	74%	84%	90%	94%	96%	98%	98%	99%
Waves 1-6	100%	63%	75%	84%	90%	93%	96%	98%	98%	99%

Table 11. Percent of status quo harvest remaining under various bag limits for Gulf and South Atlantic **private/charter-harvested** mutton snapper for Wave 3 (May-June) during 2011-2013, Waves 1,2,4,5, and 6 combined, and Waves 1-6 during 2011-2013.

Waves	Status Quo (10)	1	2	3	4	5	6	7	8	9
Wave 3	100%	75%	84%	87%	88%	90%	92%	94%	96%	98%
Waves 1,2,4,5,6	100%	82%	95%	98%	98%	99%	99%	99%	99%	99%
Waves 1-6	100%	77%	89%	92%	94%	95%	96%	96%	97%	98%

The distribution of mutton snapper catch-per-angler (cpa) is shown in **Figure 1** for the headboat sector and **Figure 2** for the private/charter sector. As can be seen, most anglers catch 3 or fewer mutton snapper.

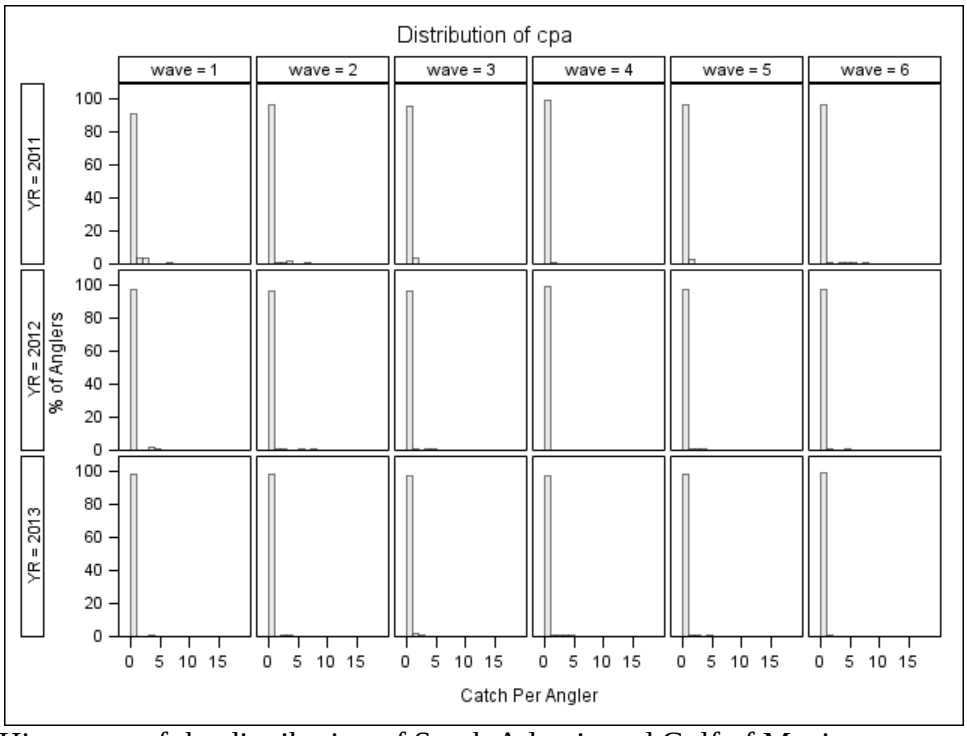

Figure 1. Histogram of the distribution of South Atlantic and Gulf of Mexico mutton snapper **headboat** catch per angler, by wave.

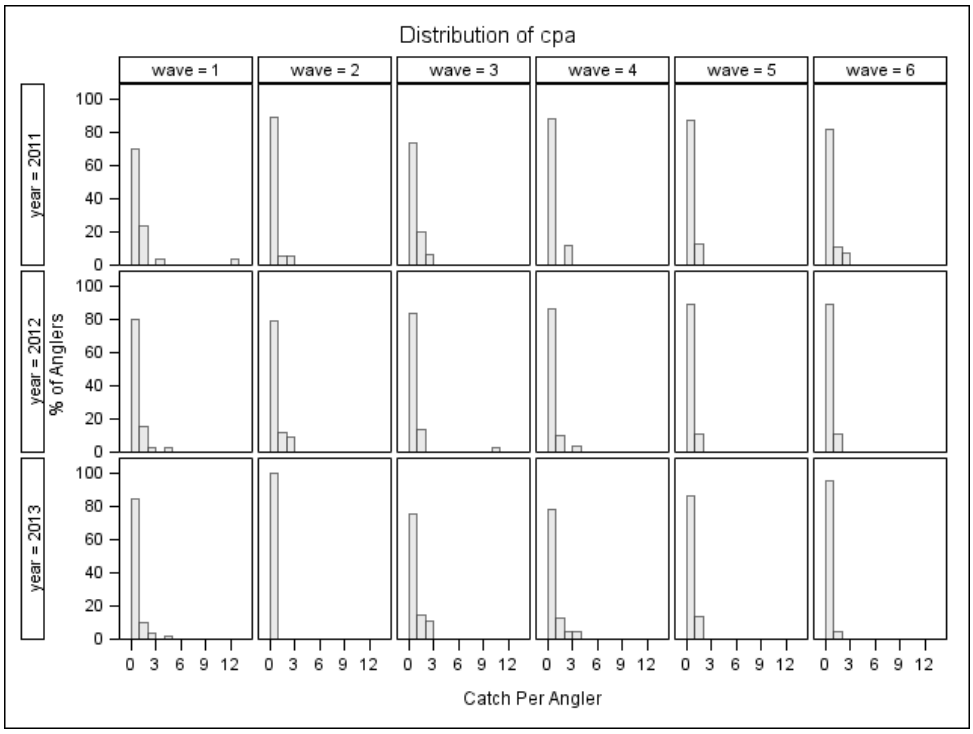

Figure 2. Histogram of the distribution of South Atlantic and Gulf of Mexico Mutton Snapper catch per angler, by **MRFSS** wave.

Figure 3 shows that commercial landings of mutton snapper for all Florida counties are highest during the May-June period of peak spawning. Furthermore, **Figure 4** illustrates that most of the mutton snapper landings are from the Southeast. Overall Florida landings of mutton snapper were highest in 2008 and decreased through 2011. Landings have increased in the last two years (**Figure 5**). An examination of the monthly distribution of mutton snapper landings from commercial logbook and dealer reports shows similar trends (**Tables 12a** and **12b**). In addition, commercial landings of mutton snapper in the South Atlantic are highest during the May-June spawning season despite the 10 fish/person/day bag limit that is currently in place.

Table 12a. Monthly distribution of mutton snapper landings for commercial logbook in the Gulf and South Atlantic during 2008-2012.

Month	Total	SA	Gulf
1	4.6%	5.2%	4.0%
2	7.5%	6.4%	8.4%
3	6.4%	5.5%	7.1%
4	8.0%	6.7%	9.1%
5	16.6%	20.6%	13.1%
6	13.5%	16.8%	10.6%
7	9.7%	8.6%	10.7%
8	7.8%	8.4%	7.3%
9	7.2%	5.3%	8.8%

10	6.8%	5.7%	7.8%
11	5.1%	5.0%	5.2%
12	6.9%	5.8%	7.9%

Table 12b. Monthly distribution of mutton snapper landings from dealer reported landings (Accumulative Landings System) in the Gulf and South Atlantic during 2008-2012.

Month	Total	SA	Gulf
1	4.6%	5.4%	3.7%
2	7.1%	6.7%	7.6%
3	7.0%	6.1%	7.9%
4	7.7%	6.3%	9.2%
5	16.7%	18.8%	14.6%
6	13.4%	16.4%	10.4%
7	9.0%	8.4%	9.6%
8	7.7%	8.9%	6.6%
9	6.8%	5.9%	7.8%
10	6.5%	5.6%	7.4%
11	5.6%	5.9%	5.2%
12	7.8%	5.7%	9.9%

Action 7. Mutton snapper commercial trip limit in the Gulf of Mexico and South Atlantic

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 7 will only be a viable option if Alternative 3, 5, or 6 from Action 1 is selected as preferred.*

Alternative 1: No action. During May-June, the commercial sector in the South Atlantic is restricted to 10 mutton snapper per day or 10 mutton snapper per trip, whichever is more restrictive. There is no bag or trip limit for the commercial sector in the Gulf or South Atlantic during the July-April regular season.

Alternative 2: Establish a commercial trip limit for mutton snapper during the regular season (July-April) in the Gulf of Mexico and the South Atlantic.

Option 2a: 10 fish/person/day

Option 2b: Some higher bag or trip limit.

Alternative 3: Specify a commercial trip limit for mutton snapper during the spawning season (May-June) in the Gulf of Mexico and the South Atlantic.

Option 3a: 2 fish/person/day

Option 3b: 5 fish/person/day
Option 3c: 10 fish/person/day
Option 3d: No bag or trip limit

Discussion

This action would specifically address the commercial trip limit for mutton snapper in the Gulf of Mexico and the South Atlantic.

Alternative 2, Option 2a would establish a commercial trip limit for mutton snapper during the regular season (July-April) of 10 fish/person/day. Currently, there are no commercial bag or trip limits in effect for commercial harvest of mutton snapper during the regular season. Assuming the average weight of a landed mutton snapper is 5 pounds whole weight (lbs ww), a 10 fish/person/day bag limit would correspond to a 50 lbs ww trip limit. About 17% of the commercial trips landed more than 50 lbs ww per trip but these trips represented about 60% of the landings (**Table 13**). **Option 2b** would establish a commercial bag or trip limit in excess of 10 fish per person per day.

Alternative 3, Options 3a through **3c** would specify a commercial trip limit for mutton snapper during the spawning season (May-June) of 2, 5, or 10 fish/person/day. **Option 3d** would not specify a commercial bag limit or trip limit for mutton snapper during the spawning season. A two fish/person/day commercial bag limit would be expected to reduce harvest by over 78% during the May-June spawning season; a 5 fish/person/day commercial bag limit would be expected to reduce harvest by 75% during the May-June spawning season; and a 10 fish/person/day would be expected to reduce commercial harvest of mutton snapper during the spawning season by 63% during the May-June spawning season (**Table 14**).

Table 13. Reduction in harvest provided by a trip or bag limit during July-April based on commercial mutton snapper landings from 2008-2012 for the Gulf and South Atlantic.

Trip Limit (lbs ww)	Trip Limit (#fish)	2008-2012		
		# Trips	% Trips	Harvest Reduction
0	0	7,030	100.00%	100.00%
20	4	3,000	42.67%	77.12%
25	5	2,568	36.53%	73.88%
40	8	1,739	24.74%	66.45%
50	10	1,419	20.18%	62.79%
60	12	1,202	17.10%	59.74%
80	16	929	13.21%	54.79%
100	20	747	10.63%	50.88%
115	23	648	9.22%	48.46%
150	30	466	6.63%	44.00%
175	35	404	5.75%	41.50%
200	40	337	4.79%	39.38%
250	50	260	3.70%	35.97%
300	60	220	3.13%	33.18%
400	80	171	2.43%	28.76%
500	100	130	1.85%	25.22%
600	120	108	1.54%	22.48%
700	140	90	1.28%	20.14%
800	160	80	1.14%	18.19%
900	180	69	0.98%	16.47%
1,000	200	59	0.84%	15.02%
1,100	220	51	0.73%	13.76%
1,200	240	48	0.68%	12.61%
1,300	260	38	0.54%	11.59%
1,400	280	35	0.50%	10.73%
1,500	300	32	0.46%	9.96%
1,600	320	27	0.38%	9.27%
1,700	340	25	0.36%	8.67%
1,800	360	24	0.34%	8.12%
1,900	380	23	0.33%	7.58%
2,000	400	22	0.31%	7.06%
2,250	450	19	0.27%	5.82%
2,500	500	15	0.21%	4.89%
2,750	550	12	0.17%	4.14%
3,000	600	10	0.14%	3.50%

Table 14. Reduction in harvest provided by a trip limit during May-June based on commercial mutton snapper landings from 2008-2012 for the Gulf and South Atlantic.

Trip Limit (lbs ww)	Trip Limit (#fish)	2008-2012		
		# Trips	% Trips	Harvest Reduction
0	0	2,728	100.00%	100.00%
20	4	1,330	48.75%	78.44%
25	5	1,166	42.74%	75.05%
40	8	857	31.41%	66.95%
50	10	742	27.20%	62.65%
60	12	645	23.64%	58.93%
80	16	501	18.37%	52.80%
100	20	398	14.59%	48.00%
115	23	357	13.09%	44.96%
150	30	259	9.49%	39.13%
175	35	225	8.25%	35.90%
200	40	188	6.89%	33.11%
250	50	140	5.13%	28.77%
300	60	107	3.92%	25.49%
400	80	67	2.46%	20.98%
500	100	55	2.02%	17.79%
600	120	41	1.50%	15.28%
700	140	31	1.14%	13.42%
800	160	26	0.95%	11.91%
900	180	23	0.84%	10.63%
1,000	200	19	0.70%	9.49%
1,100	220	15	0.55%	8.58%
1,200	240	13	0.48%	7.83%
1,300	260	11	0.40%	7.19%
1,400	280	11	0.40%	6.60%
1,500	300	10	0.37%	6.05%
1,600	320	8	0.29%	5.58%
1,700	340	8	0.29%	5.15%
1,800	360	8	0.29%	4.72%
1,900	380	8	0.29%	4.29%
2,000	400	8	0.29%	3.86%
2,250	450	7	0.26%	2.80%
2,500	500	4	0.15%	2.21%
2,750	550	2	0.07%	1.72%
3,000	600	1	0.04%	1.48%

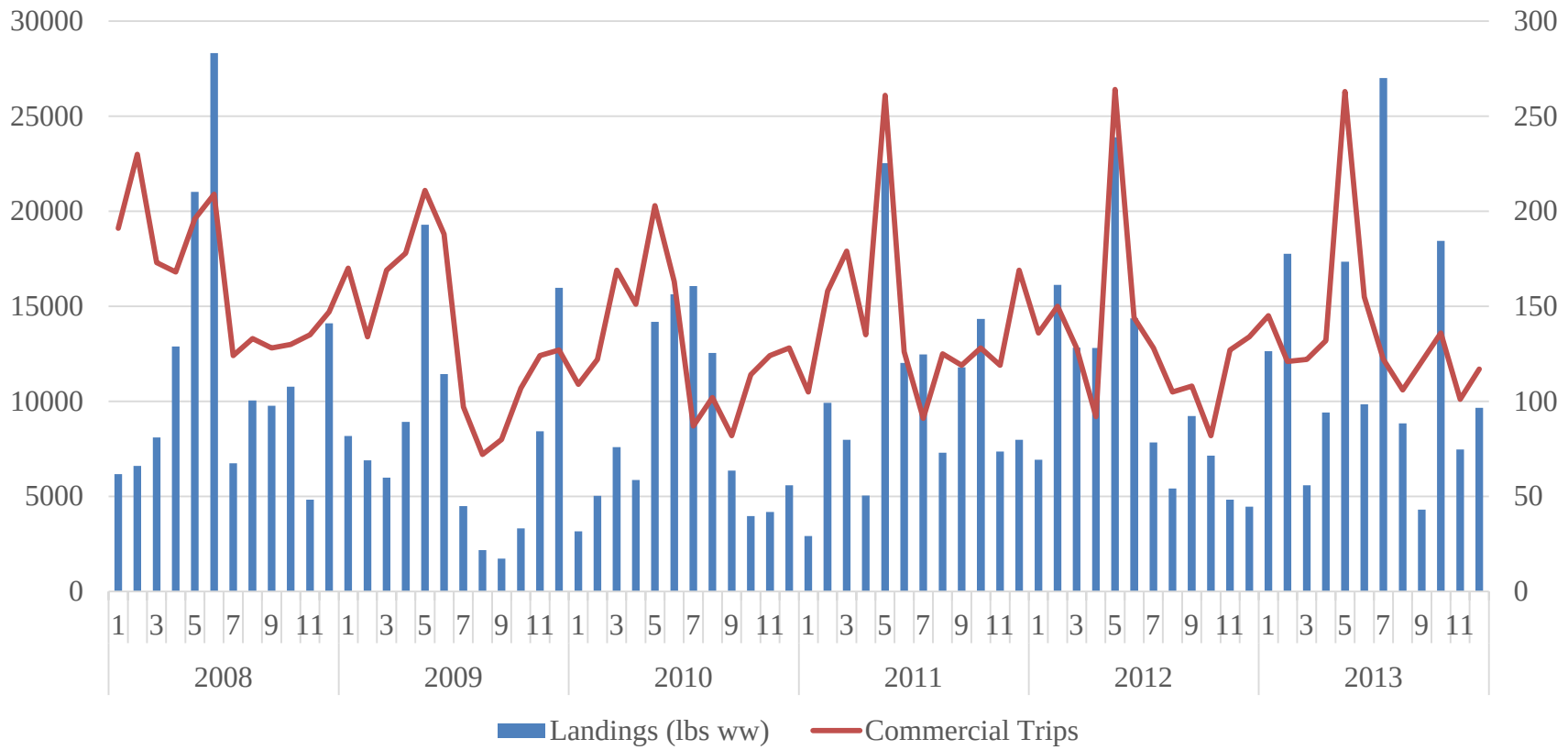

Figure 3. Commercial mutton snapper landings and trips by month from 2008 to 2013. Left y-axis (blue bars) is total commercial mutton snapper landings (lbs ww) for all Florida counties. Right y-axis (red line) is total commercial mutton snapper trips taken.

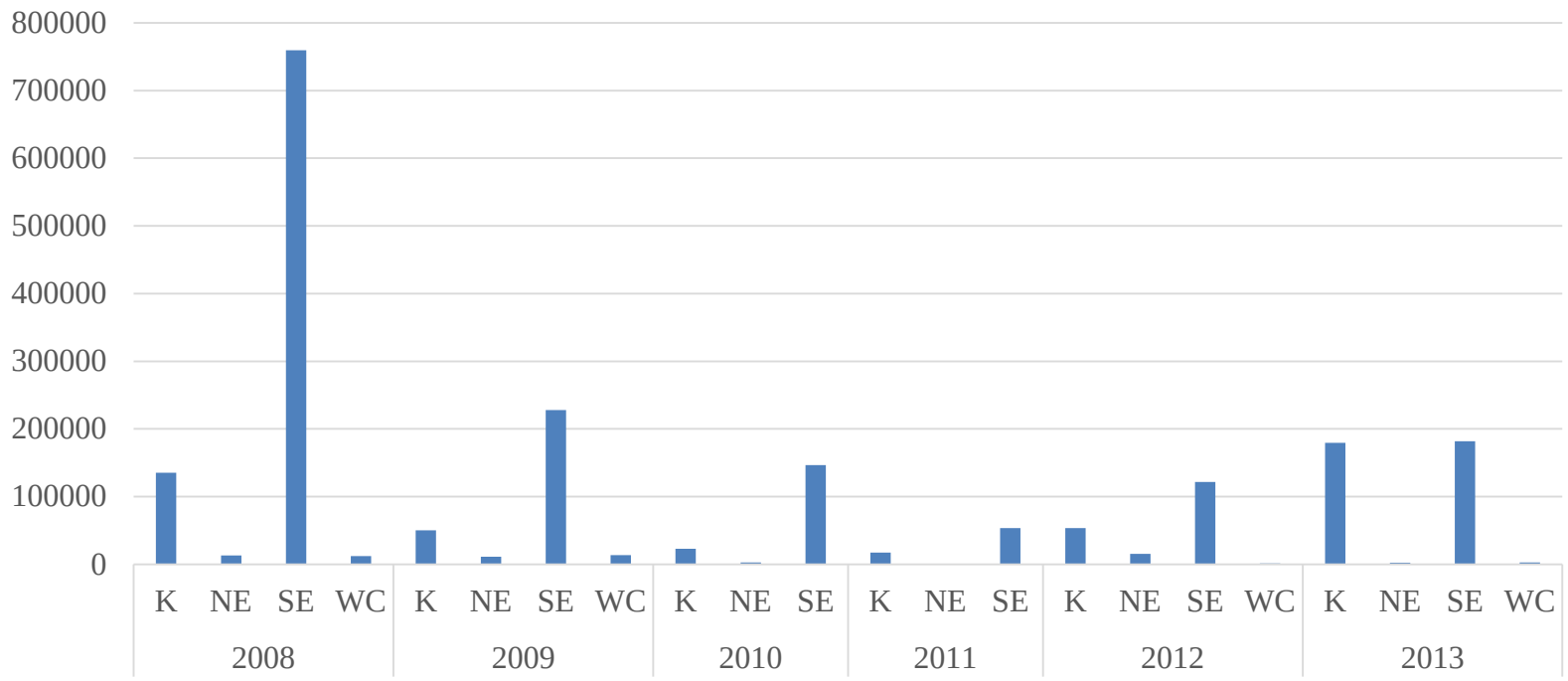

Figure 4. Total recreational landings (lbs ww) of mutton snapper from Florida waters from 2008-2013 by reporting region: K = Keys, NE = Northeast, SE = Southeast, WC = West Central. The Panhandle of Florida (otherwise denoted as "P") is not represented here due to the absence of mutton snapper landings in the Panhandle region.

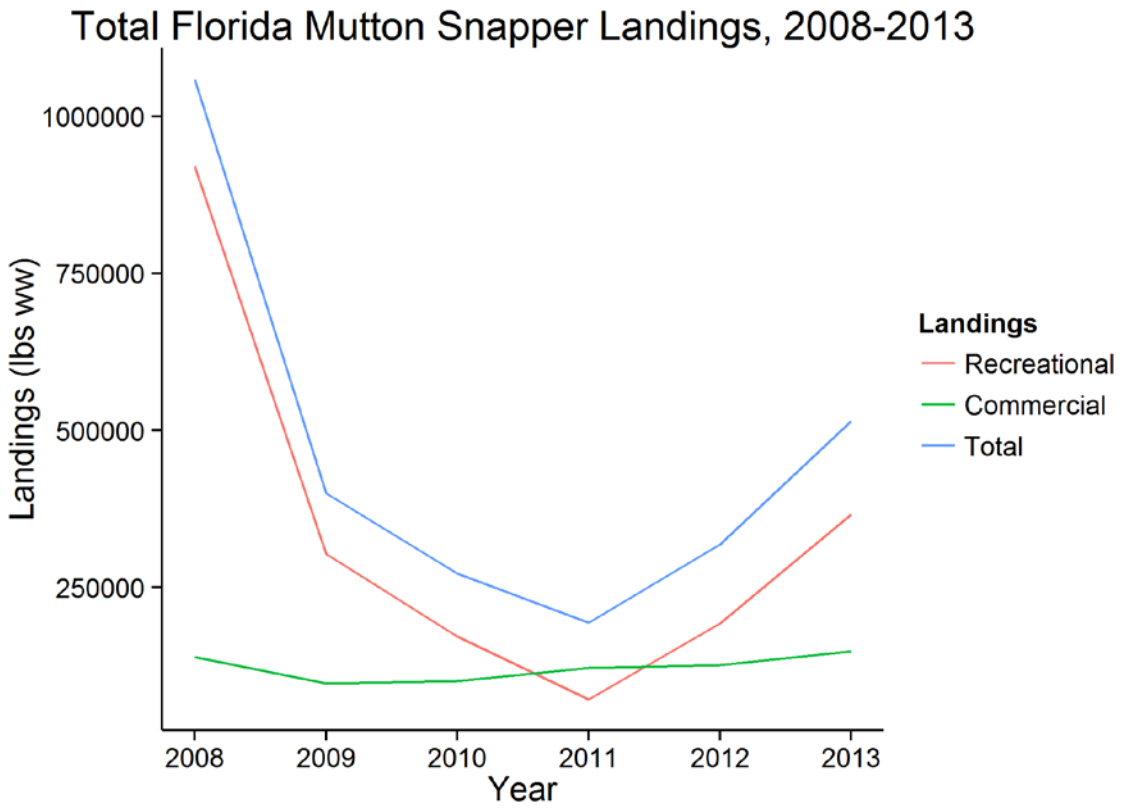

Figure 5. Total landings of mutton snapper in Florida (lbs ww). Data are from the Florida Fish and Wildlife Conservation Commission recreational landings and commercial trip ticket programs.

Action 8: Delegate Recreational Management of Black Grouper to the State of Florida

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 8 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1: No action. Retain recreational management of black grouper in the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Alternative 2: Determine specific recreational management items for delegation to the State of Florida for black grouper:

Option 2a: Size limits
Option 2b: Seasons
Option 2c: Bag limits

Option 2d: Minor modifications to existing allowable gear

Discussion

This action considers alternatives that would delegate the management of black grouper to the State of Florida for the recreational (**Alternative 2**) sector. **Tables 1** and **2** reveal that harvest of black grouper is almost entirely from Florida. Delegation of the management of the commercial black grouper sector is not being considered here, as it is currently part of the Shallow-water Grouper Individual Fishing Quota program in the Gulf of Mexico.

Alternative 2 would determine specific recreational management items for delegation to the State of Florida for black grouper, including: **Option 2a**- size limits; **Option 2b**- seasons; **Option 2c**- bag limits; and **Option 2d**- minor modifications to existing gear. Multiple options may be selected as preferred for this alternative, thereby delegating one or multiple facets of recreational fisheries management to the State of Florida. The Councils would remain responsible for setting ACLs and implementing AMs, as defined in the Magnuson-Stevens Act.

Action 9: Allocate Black Grouper Recreational Annual Catch Limits to the State of Florida and Create a Recreational Bycatch Allowance for other Gulf and South Atlantic States

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 9 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Alternative 1. No action. Maintain the current recreational ACLs based on the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

Alternative 2. Use both Council's agreed upon ABC for black grouper and allocate the recreational ACLs for the Gulf and South Atlantic:

Option 2a: Combine the current recreational allocations (i.e., 63.12% of the ACL for the South Atlantic and 27% of the ACL for the Gulf) for black grouper into a single recreational allocation for delegation to the State of Florida.

Option 2b: Use the South Atlantic Council's current sector allocation formula (Bowtie approach): divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1991-2008, and 50% on the mean of the landings from 2006-2008.

Option 2c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 2d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 2e: Employ some other allocation formula

Alternative 3. Use both Council's agreed upon ABC for black grouper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 47% of the ABC for South Atlantic Council jurisdictional waters, and 53% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida:

Option 3a: Use the South Atlantic Council's current sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1991-2008, and 50% on the mean of the landings from 2006-2008.

Option 3b: Use the following sector allocation formula: divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013.

Option 3c: Base sector allocations for waters off Florida on average landings from 2008-2012

Option 3d: Base sector allocations for waters off Florida on average landings from 200x-20xx

Option 3e: Employ some other allocation formula

Alternative 4. Create a recreational landings allowance for black grouper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC).

Option 4a: Adjust ABC by 1% to address landings in the other Gulf and South Atlantic States.

Option 4b: Adjust ABC by 2% to address landings in the other Gulf and South Atlantic States.

Option 4c: Adjust ABC by 3% to address landings in the other Gulf and South Atlantic States.

Option 4d: Adjust ABC by 4% to address landings in the other Gulf and South Atlantic States.

Discussion

This action would allocate recreational black grouper annual catch limits to the State of Florida and create a landings allowance for other Gulf and South Atlantic states. This would allow the State of Florida to monitor recreational black grouper landings and close the fishery once its allocation is reached or is projected to be reached.

Alternative 2 would use both Council's agreed upon acceptable biological catch (ABC) for black grouper and allocate the commercial and recreational ACLs for the Gulf and South Atlantic using one of the time period options offered. **Option 2a** would combine the current recreational allocations (i.e., 63.12% of the ACL for the South Atlantic and 27% of the ACL for the Gulf) for black grouper into a single recreational allocation for delegation to the State of Florida. The respective commercial allocations for each Council would continue to be managed directly by the responsible Council. **Option 2b** would use the South Atlantic Council's current

sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1991-2008, and 50% on the mean of the landings from 2006-2008. **Option 2b** places a greater weighing proportionally on the 2006-2008 time period, since it is counted twice. The resulting individual weightings from **Option 2b** yield individual weights of 2.78% for each year from 1991-2005, and 19.44% for each year from 2006-2008. **Option 2c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 2d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 2e** would employ some other formula to determine sector allocations.

Alternative 3 would use both Council's agreed upon ABC for black grouper and create Gulf commercial and recreational sector ACLs from the current ABC jurisdictional split: 47% of the ABC for South Atlantic Council jurisdictional waters, and 53% for Gulf Council jurisdictional waters. Gulf sector allocations would be derived from one of the options below, and the subsequent Gulf and South Atlantic sector allocations would be combined to create sector allocations off Florida. **Option 3a** would use the South Atlantic Council's current sector allocation formula ("bowtie approach") by dividing the sector allocations based on the ratio of landings, with 50% of the weighting given to the mean of the landings from 1991-2008, and 50% on the mean of the landings from 2006-2008 (please note the clarification of the actual weightings yielded from the "bowtie approach" as noted in the discussion of **Alternative 2**). **Option 3b** would divide the sector allocations based on the ratio of landings with 50% of the weighting given to the mean of the landings from 1993-2008, and 50% on the mean of the landings from 2009-2013. **Option 3c** would base sector allocations for waters off the State of Florida on average landings from 2008-2012. **Option 3d** would base sector allocations for waters off Florida on average landings from some other time period from the most recent decade. **Option 3e** would employ some other formula to determine sector allocations.

Alternative 4 would create a landings allowance for black grouper in the other Gulf (TX, LA, MS, AL) and other South Atlantic States (GA, SC, NC). **Option 4a** would adjust the ABC by 1% to address landings of black grouper in the other Gulf and South Atlantic States, **Option 4b** would adjust the ABC by 2%, **Option 4c** would adjust the ABC by 3%, and **Option 4d** would adjust the ABC by 4%. **Table 15** shows the proportion of the total ACL allocated among 3 regions for black grouper based on data from 2008-2012.

Table 15. Proportion of the total ACL allocated among 3 regions for black grouper based on data from 2008-2012.

Alt 4	FL	Gulf	SA
black grouper	95.3%	3.7%	1.0%

Action 10: Specify Accountability Measures for South Florida Species

Note: *The alternative (and option(s)) selected as preferred in Action 1 will have direct consequences for which alternatives may be selected as preferred in Actions 2-10. Action 10 will only be a viable option if Alternative 2 and/or 3 from Action 1 is selected as preferred.*

Note: Under some circumstances more than one alternative could be selected as preferred.
Direction to Staff: The Committee briefly discussed Action 3: Accountability Measures for South Florida species. Based on the previous discussions and additions to the document, the Committee wanted to simplify the accountability measures and staff will draft accountability measures for a commercial and recreational ACL that would close the fishery for yellowtail snapper and mutton snapper when the total ACL was met; this would not include the bycatch allowance (1-2%) from other Gulf and South Atlantic States. For black grouper, the recreational ACL would close when landings from all jurisdictions had met the ACL.

Alternative 1: No action. Maintain the current recreational and commercial accountability measures (AMs) for Yellowtail Snapper, Mutton Snapper, and Black Grouper based on the Reef Fish and Snapper Grouper Fishery Management Plans for the Gulf and South Atlantic Councils, respectively.

South Atlantic: Commercial AM – In-season closure when the ACL expected to be met and ACL reduced in following fishing season if species is overfished and ACL is exceeded. Recreational AM – if ACL is exceeded, monitor landings in following season for persistence in landings and reduce the length of the following fishing season, if necessary.

Gulf: For Yellowtail Snapper and Mutton Snapper, if the combined commercial and recreational landings exceed the stock ACL, in–season AMs are in effect for the following year. If the combined landings reach or are projected to reach the stock ACL, both sectors will be closed for the remainder of that fishing year. For black grouper, this AM applies to the ACL for the other shallow-water grouper aggregate (black grouper, scamp, yellowmouth grouper, and yellowfin grouper).

Alternative 2: If the sum of the commercial and recreational landings exceeds the stock ACL, then during the following fishing year, if the sum of commercial and recreational landings reaches or is projected to reach the stock ACL, then the commercial and recreational sectors will be closed for the remainder of that fishing year. On and after the effective date of a closure, all sales, purchases harvest or possession of this species in or from the EEZ will be prohibited.

Alternative 3: If commercial landings as estimated by the Science and Research Director reach or are projected to reach the commercial ACL, the Regional Administrator shall publish a notice to close the commercial sector for the remainder of the fishing year. On and after the effective date of such a notification, all sale or purchase is prohibited and harvest or possession of this species in or from the EEZ is limited to the bag and possession limit. Additionally,

~~**Option 3a:** If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the species is overfished.~~

~~**Option 3b:** If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the total ACL (commercial ACL and recreational ACL) is exceeded.~~

Option 3c: If the commercial ACL is exceeded, the Regional Administrator shall publish a notice to reduce the commercial ACL in the following fishing year by the amount of the commercial overage, only if the species is overfished **and** the total ACL (commercial ACL and recreational ACL) is exceeded.

Alternative 4: If recreational landings, as estimated by the Science and Research Director, exceed the recreational ACL, then during the following fishing year, recreational landings will be monitored for a persistence in increased landings.

~~**Option 4a:** If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the species is overfished. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.~~

~~**Option 4b:** If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the total ACL (commercial ACL and recreational ACL) is exceeded. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.~~

Option 4c: If necessary, the Regional Administrator shall publish a notice to reduce the length of fishing season and the recreational ACL in the following fishing year by the amount of the recreational overage, only if the species is overfished **and** the total ACL (commercial ACL and recreational ACL) is exceeded. The length of the recreational season and recreational ACL will not be reduced if the Regional Administrator determines, using the best scientific information available, that a reduction is unnecessary.

Alternative 5: If recreational landings reach or are projected to reach the recreational annual catch limit, National Marine Fisheries Service will file a notification with the Office of the Federal Register to close the recreational sector for the remainder of the fishing year, unless, using the best scientific information available, the Regional Administrator determines that a closure is unnecessary.

Option 5a: If the species is overfished.

Option 5b: Regardless of stock status.

Alternative 6: The Councils would jointly set the ACL for the recreational and commercial sector. If the combined recreational ACL and commercial ACL is met or expected to be met, both sectors would be closed for the remainder of the fishing year.

Option 6a: yellowtail snapper

Option 6b: mutton snapper

***Note: Alternative 6** is only viable if Action 1, Alternative 3 (manage any of the species selected as preferred, from the options presented, with a multijurisdictional ACL) is selected as preferred.*

Discussion

Alternative 2 follows the AMs that are in place for Gulf species; whereas, **Alternatives 3-5** follow AMs that are being considered for snapper grouper species in the Comprehensive AM and Dolphin Allocation Amendment. The South Atlantic Council's Preferred Options include **Options 3c, 4c,** and **5b**. **Alternative 6** would close the areas covered by a joint ABC and ACL to fishing for the species selected in the associated options only when the overall ACL is met. **Alternative 6** would require each Council to establish recreational and commercial ACLs for the preferred options.

Action 11. Modify the shallow-water grouper species compositions and seasonal closures in the Gulf and South Atlantic

Alternative 1: No action. Retain the existing respective shallow-water grouper species compositions and seasonal closures in the Gulf and South Atlantic Councils.

Alternative 2: Remove the shallow-water grouper closure for all affected grouper species in the Gulf of Mexico and the South Atlantic:

Option 2a: South of 28° North latitude.

Option 2b: Throughout each Council's jurisdiction.

Alternative 3: Establish identical regulations for shallow-water grouper species compositions for the Gulf and South Atlantic south of 28° North latitude:

Option 3a: Adopt the Gulf shallow-water grouper species composition for the Gulf and South Atlantic.

Option 3b: Adopt the South Atlantic shallow-water grouper species composition for the Gulf and South Atlantic.

Option 3c: Specify a new shallow-water species complex for the Gulf and South Atlantic.

Alternative 4: Establish identical regulations for the shallow-water grouper seasonal closures in the Gulf and South Atlantic south of 28° North latitude:

Option 4a: Adopt the Gulf shallow-water grouper seasonal closures for the Gulf and South Atlantic.

Option 4b: Adopt the South Atlantic shallow-water grouper seasonal closures for the Gulf and South Atlantic.

Option 4c: Establish identical regulations for shallow-water grouper seasonal closures in the Gulf of Mexico and the South Atlantic.

Alternative 5: Establish identical regulations for the shallow-water grouper seasonal closures throughout the Gulf and South Atlantic:

Option 5a: Adopt the Gulf shallow-water grouper seasonal closures for the Gulf and South Atlantic.

Option 5b: Adopt the South Atlantic shallow-water grouper seasonal closures for the Gulf and South Atlantic.

Option 5c: Establish identical regulations for shallow-water grouper seasonal closures in the Gulf of Mexico and the South Atlantic.

Discussion:

The immediate effects of fishing pressure on the reproductive characteristics of shallow-water grouper (SWG) are most often seen in the average size of fish landed, and in changes in sex ratios over time (Coleman et al. 1996; Koenig et al. 2000). Long-term effects include decreases in fecundity, population abundance, and concomitantly, catch limits. At risk are commercially and recreationally important SWG species, such as red grouper (*Epinephelus morio*), black grouper (*Mycteroperca bonaci*), gag (*M. microlepis*), yellowfin grouper (*M. venenosa*),

yellowmouth grouper (*M. interstitialis*), and scamp (*M. phenax*), all of which are protogynous species (Shapiro 1987, Böhlke and Chaplin 1993) attracted to high-relief sites. Gag, scamp, and black grouper form predictable, localized, and seasonal spawning aggregations, increasing their vulnerability to exploitation (Gilmore and Jones 1992; Coleman et al. 1996; Coleman et al. 2000; Brule et al. 2003). Yellowfin and yellowmouth groupers may be similarly vulnerable; however, substantially less empirical life history information is available for these two species (**Table 16**).

Table 16. Gulf of Mexico shallow-water grouper spawning information and recreational season closures. The shallow-water grouper complex applies to both the recreational and commercial sector in the Gulf of Mexico; however, the commercial sector is managed with an individual fishing quota system so the season closures listed below only apply to the recreational sector.

Gulf of Mexico Shallow-Water Grouper Complex					
Species	**Current Recreational Closure**	**Spawning Season**	**Spawning Depth**	**Northernmost Distribution**	**Data Source(s)**
Gag	1/1-6/30 and 12/4-12/31	January-May	50-120 m	Northern Florida Panhandle	SEDAR 33
Black Grouper	2/1- 3/31 > 20-fath	February-April	≥ 30 m	Middle Grounds/Big Bend Area	SEDAR 19
Red Grouper	2/1- 3/31 > 20-fath	March-May	25-120 m	Northern Florida Panhandle	SEDAR 12, 2009 SEDAR 12 Update
Scamp	2/1- 3/31 > 20-fath	January-May	30-100 m	Gulf-wide	Heemstra and Randall 1993, Coleman et al. 2011
Yellowfin Grouper	2/1- 3/31 > 20-fath	February-April	30-40 m	Gulf-wide	Nemeth et al. 2006
Yellowmouth Grouper	2/1- 3/31 > 20-fath	March-May	≤ 150 m	Gulf-wide	Heemstra and Randall 1993; Bullock and Murphy 1994

In the Gulf of Mexico, a separate recreational gag season was developed as part of the gag rebuilding plan. Because other SWG stocks are considered healthy, the utility of the SWG closure was questioned. In addition, much of the dominant gag spawning grounds are now protected by time-area closures. In response to this, the Gulf Council submitted a framework action that among other things, eliminated the February 1 through March 31 SWG closure shoreward of 20 fathoms in the Gulf of Mexico (GMFMC 2012). These new regulations were adopted and implemented in 2013. The SWG closure is still enforced in the exclusive economic zone in the Gulf for waters seaward of 20 fathoms (~36.5 m, or 120 feet). It should be noted that the SEDAR 33 stock assessment, in combination with additional analyses as requested by the Gulf Council's Scientific and statistical committee, determined that the Gulf of Mexico gag population was rebuilt at their June 2014 meeting.

The January-April commercial and recreational spawning season closure for South Atlantic SWG was put into place through the final rule for Amendment 16 to the Snapper Grouper FMP (SAFMC 2008). Off the southeastern United States, gag spawn from December through May, with a peak in March and April (McGovern et al. 1998). There is some evidence that spawning may occur earlier off Florida compared to other more northern areas. Gag may make annual late-winter migrations to specific locations to form spawning aggregations, and fishermen know many of these locations. McGovern et al. (2005) found gag were capable of extensive movement and suggested movement may be related to spawning. Gilmore and Jones (1992) indicated gag may be selectively removed from spawning aggregations because they are the largest and most aggressive individuals and subsequently, the first to be taken by fishing gear. In 1998, the South Atlantic Council took action to reduce fishing mortality and protect spawning aggregations of gag and black grouper. Actions included a March-April spawning season closure for the commercial sector. While a March-April commercial closure may offer some protection to spawning aggregations including the selective removal of males, the January-April spawning season closure provided greater protection. Although gag spawn during December through May, aggregations are in place before and after spawning activity (Gilmore and Jones 1992). Therefore, males can be removed from spawning aggregations early in the spawning season, and this could affect the reproductive output of the aggregation if there were not enough males present in an aggregation for successful fertilization of eggs. Amendment 16 (SAFMC 2008) also established a provision to close other SWG including black grouper, red grouper, scamp, red hind, rock hind, yellowmouth grouper, yellowfin grouper, graysby, and coney, which are also known to spawn during January-April. Further protection for gag and SWG were provided through the establishment of ACLs and AMs in Amendment 17B to the Snapper Grouper FMP (SAFMC 2010b) and the Comprehensive ACL Amendment (SAFMC 2011), respectively. Thus, the seasonal closure provides protection to SWG during their spawning season when SWG species may be exceptionally vulnerable to fishing pressure, and ACLs and AMs are in place to help ensure overfishing does not occur. Information on SWG in the South Atlantic is provided in **Table 17**.

Table 17. South Atlantic shallow-water grouper complex spawning information. The shallow-water complex applies to both the commercial and recreational sectors in the South Atlantic.

South Atlantic Shallow-Water Grouper Complex					
Species	Current Rec & Comm Closure	Peak Spawning Season	General Spawning Depth	General Northernmost Distribution	Data Source(s)
Gag	January-April	January-May	24-117 m	NC	Williams and Carmichael 2009; McGovern et al. 1998; SEDAR 10
Black Grouper	January-April	January-March	≥ 30 m	FL Keys	Williams and Carmichael 2009; Crabtree and Bullock 1998; SEDAR 19
Red Grouper	January-April	February-April	30-90 m	NC	Williams and Carmichael 2009; SEDAR 19
Scamp	January-April	March-May	33-93 m	NC	Williams and Carmichael 2009; Harris et al. 2002
Yellowfin Grouper	January-April	March in FL Keys			Taylor and McMichael 1983
Yellowmouth Grouper	January-April	March-May in Gulf			Bullock and Murphy 1994
Red Hind	January-April	December-February in Caribbean			Thompson and Munro 1978
Rock Hind	January-April	January through March off Cuba		20-30 m off Puerto Rico	García-Cagide et al. 1994; Rielinger 1999
Graysby	January-April	March, May-July in Caribbean			Erdman 1976
Coney	January-April	November to March off Puerto Rico			Figuerola et al. 1997

Alternative 1 would retain the existing respective shallow-water grouper species compositions and seasonal closures in the Gulf and South Atlantic Councils. **Alternative 2** would remove the shallow-water grouper closure for all affected grouper species in the Gulf of Mexico and the South Atlantic either south of 28° North latitude (**Option 2a**) or throughout each Council's jurisdiction (**Option 2b**). Law enforcement personnel have commented that a straight line, such as the one proposed in **Alternative 2**, **Option 2a** is typically easier to abide by and enforce. **Alternative 3** would establish identical regulations for shallow-water grouper species compositions for the Gulf and South Atlantic South of 28° North latitude by adopting either the Gulf shallow-water grouper species composition (**Option 3a**) or the South Atlantic shallow-water grouper species composition (**Option 3b**) for the Gulf and South Atlantic, or by specifying a new shallow-water species complex for the Gulf and South Atlantic (**Option 3c**). Developing identical regulations for shallow-water grouper species compositions in both Councils' jurisdictions would simplify management for fishermen, especially those who may fish in both Councils' jurisdictions in a single trip. **Alternative 4** would establish identical regulations for the shallow-water grouper seasonal closures in the Gulf and South Atlantic South of 28° North latitude by adopting the Gulf shallow-water grouper seasonal closures (**Option 4a**) or the South Atlantic shallow-water grouper seasonal closures (**Option 4b**) for the Gulf and South Atlantic, or by establishing otherwise identical regulations for shallow-water grouper seasonal closures in both Councils' jurisdictions (**Option 4c**). **Alternative 5** would establish identical regulations for the shallow-water grouper seasonal closures in the same manner and with the same options as **Alternative 4**, except that the resultant regulations would be applicable throughout the Gulf and South Atlantic.

Action 12. Modify Black Grouper Fishery Closures in the Gulf of Mexico and the South Atlantic.

Alternative 1: No Action – Do not modify black grouper recreational closures in the Gulf of Mexico, of recreational and/or commercial closures in the South Atlantic. Maintain currently established seasonal bag limits in both the Gulf of Mexico and the South Atlantic, with black grouper included as a component of the shallow-water grouper and reef fish aggregate bag limits.

Alternative 2: Remove black grouper from the shallow-water grouper closures of the recreational season in the Gulf and of the recreational and commercial seasons in the South Atlantic.

Alternative 3: Establish a recreational seasonal closure for black grouper.

Option a: January - March
Option b: January
Option c: February
Option d: March

Alternative 4: Establish a one fish recreational bag limit for black grouper in Florida with an optional seasonal closure during: (Note: consider removing black grouper from the aggregate bag limit.)

Option 4a: January - March

Option 4b: January - February

Alternative 5: Remove black grouper from recreational aggregate bag limits in the Gulf of Mexico.

Option 5a: Shallow-water grouper aggregate bag limit

Option 5b: Reef fish aggregate bag limit

Alternative 6: Remove black grouper from recreational aggregate bag limits in the South Atlantic.

Option 6a: Shallow-water grouper aggregate bag limit

Option 6b: Reef fish aggregate bag limit

Discussion

Modifying the current black grouper closures in the Gulf of Mexico and the South Atlantic could provide or remove protections to spawning aggregations, especially during peak spawning activity in January through March. The protection of spawning aggregations has shown to be beneficial to other heavily-targeted protogynous groupers (see Gulf of Mexico gag, SEDAR 33). Also, modifying the inclusion of black grouper in recreational bag limits in the Gulf of Mexico and the South Atlantic could provide additional harvest capacity for the recreational sector in the South Florida region. Removal of black grouper from the shallow-water grouper aggregate bag limit could permit the additional harvest of other shallow-water grouper species still included in said bag limit. The same can be said about the potential additional harvest of other reef fish species included in the reef fish aggregate bag limit.

Alternative 1 would retain the current black grouper recreational closures in the Gulf of Mexico, and the recreational and commercial closures in the South Atlantic. Currently established seasonal bag limits in both the Gulf of Mexico and the South Atlantic would also remain the same, with black grouper included as a component of the shallow-water grouper and reef fish aggregate bag limits. **Alternative 2** would remove black grouper from the shallow-water grouper closures of the recreational season in the Gulf and of the recreational and commercial seasons in the South Atlantic, thus allowing harvest throughout the South Florida region year-round. Alternatively, **Alternative 3** would establish a recreational seasonal closure for black grouper either from January – March (**Option 3a**), during January only (**Option 3b**), during February only (**Option 3c**), or during March only (**Option 3d**).

Alternative 4 would establish a one fish recreational bag limit for black grouper in Florida with an optional seasonal closure during either January – March (**Option 4a**) or January – February (**Option 4b**). A one fish recreational bag limit would permit the restriction of recreational harvest, while the optional seasonal closure would permit the protection of spawning aggregations during the time of year when they are most vulnerable to fishing pressure. **Alternative 5** would remove black grouper from the shallow-water grouper aggregate bag limit (**Option 5a**) and/or the reef fish aggregate bag limit (**Option 5b**) in the Gulf of Mexico. **Alternative 6** (and options) would perform the same action as **Alternative 5**, but for the South Atlantic. **Alternatives 5** and **6** have the potential to result in increased harvest capacity for those

species remaining in the shallow-water grouper and/or reef fish aggregate bag limits, as black grouper would no longer account for some portion of those bag limits. Such a removal would permit the harvest of additional fish still included within those respective aggregate bag limits.

Action 13. Changes to Circle Hook Requirement in Gulf and South Atlantic Jurisdictional Waters

Alternative 1: No action – Retain the current hook requirements in the exclusive economic zone of the Gulf of Mexico and the South Atlantic.

Alternative 2: Remove the requirement to use circle hooks when fishing with natural bait for yellowtail snapper in the exclusive economic zone of the Gulf of Mexico.

Option 2a: For the recreational fishing sector

Option 2b: For the commercial fishing sector

Alternative 3: Remove the requirement to use circle hooks when fishing with natural bait for all reef fish south of 28° North latitude in the exclusive economic zone of the Gulf of Mexico.

Option 3a: For the recreational fishing sector

Option 3b: For the commercial fishing sector

Alternative 4: Remove the requirement to use circle hooks when fishing with natural bait for yellowtail snapper south of 28° North latitude in the exclusive economic zone of the Gulf of Mexico.

Option 4a: For the recreational fishing sector

Option 4b: For the commercial fishing sector

Alternative 5: Require the use of circle hooks when fishing with natural bait for all snapper-grouper species south of 28° North latitude in the exclusive economic zone of the South Atlantic.

Option 5a: For the recreational fishing sector

Option 5b: For the commercial fishing sector

Alternative 6. Remove the requirement to use circle hooks when fishing with natural bait for all species in the snapper grouper complex north of 28° North latitude in the exclusive economic zone of the South Atlantic.

Option 6a: For the recreational fishing sector

Option 6b: For the commercial fishing sector

Alternative 7. Remove the requirement to use circle hooks when fishing with natural bait for yellowtail snapper south of 26˚ N latitude in the exclusive economic zone of the Gulf of Mexico

Option 7a: For the recreational fishing sector

Option 7b: For the commercial fishing sector

Discussion:

In 2008, the Gulf Council adopted a preferred management alternative in Amendment 27 to the Reef Fish Fishery Management Plan, which required recreational anglers fishing in federal waters to use non–stainless steel circle hooks when catching reef fishes with natural bait (50 CFR 622.41). Circle hooks are defined by regulation as "a fishing hook designed and manufactured so that the point is turned perpendicularly back to the shank to form a generally circular, or oval, shape." Florida matched federal regulations, with the added specification that a circle hook must have zero degrees of offset (Florida Administrative Code §68B-14.005).

In 2010, the South Atlantic Council approved Amendment 17A to the snapper grouper Fishery Management Plan (SAFMC 2010a), which required recreational and commercial anglers fishing in federal waters to use non-stainless steel circle hooks (offset or non-offset) when fishing for all species in the snapper grouper complex when using hook-and-line-gear with natural baits in waters North of 28 degrees North latitude. This requirement was effective March 3, 2011.

Multiple reef fish species managed by the Gulf Council occur in waters south of 28°N latitude. A recent stock assessment on red snapper recognized and incorporated reduced discard mortality as a result of the requirement to use circle hooks when fishing with natural bait (SEDAR 31 2013). Sauls and Ayala (2012) observed red snapper caught with circle hooks and J hooks within the recreational sector and reported a 63.5% reduction in potentially lethal hooking injuries for red snapper caught with circle hooks (6.3% potentially lethal injuries, versus 17.1% with J hooks) (SEDAR 31 2013). SEDAR 33 (2014a, b) examined the effects of hook type on gag and greater amberjack. However, while the SEDAR 33 stock assessments recognized a decrease in lethal hooking injuries resulting from the use of circle hooks, the generally low level of recreational discard mortality for gag and greater amberjack (both prior to and after the 2008 circle hook requirement) negated the realization of benefits from using circle hooks with these species (Sauls and Ayala 2012; Sauls and Cermak 2013; Murie and Parkyn 2013).

Alternative 1 would retain the current circle hook requirements in Gulf of Mexico jurisdictional waters, requiring recreational anglers fishing in federal waters to use non–stainless steel circle hooks when catching reef fish with natural bait. Biological impacts from this alternative are not expected to change from present conditions. Any biological benefit(s) to the current circle hook requirement would be expected to persist.

Alternative 2 would remove the requirement to use circle hooks when fishing with natural bait for yellowtail snapper in the Gulf of Mexico. **Option 2a** would remove the requirement for the recreational fishing sector, and **Option 2b** would remove the requirement for the commercial fishing sector. Anglers have informed resource managers of an increased propensity for gut-hooking yellowtail snapper when fishing with circle hooks due to the small size of hook needed to successfully hook yellowtail snapper. Anglers indicate that the smaller circle hooks are swallowed completely into the stomach, increasing the likelihood of the hook snagging somewhere in the fish's digestive tract. If J-hooks are permitted for use, anglers argue, they will be able to hook yellowtail snapper in the mouth more frequently due to the morphology of the fish's mouth.

In the absence of scientific literature to characterize differences in lethal hooking injuries from different hook types for yellowtail snapper, the biological effects of removing the circle hook

requirement are largely unknown. However, requiring the use of one hook type for multiple cohabitating species and not for another will likely result in a management measure that may prove difficult to enforce. Anglers fishing for yellowtail snapper with hooks other than circle hooks would not be likely to keep from landing any of the other reef fish species for which circle hooks are required. Incidental catch of fish other than yellowtail snapper under **Alternative 2 Option 2a** may have deleterious biological effects on bycatch, including those species which are currently under rebuilding plans (red snapper and gray triggerfish). These effects could be influential throughout the Gulf, as yellowtail snapper are widely distributed. A potential exception to these possible impacts applies to the commercial fishing sector (**Option 2b**), where the fishing practices used almost exclusively target yellowtail snapper. Commercial fishermen indicate that they use chum bags on the surface to encourage yellowtail snapper to school near the fishing vessel, and then use natural bait on small hooks to catch and land the fish. The commercial fishermen also indicate that their release tools allow them to release yellowtail snapper which have been caught with J-hooks more easily than those caught with circle hooks, resulting in decreased handling times for fish which are to be discarded.

Alternative 3 would remove the requirement to use circle hooks when fishing with natural bait for all reef fish south of 28°N latitude in the Gulf. **Option 3a** would remove the requirement for the recreational fishing sector, and **Option 3b** would remove the requirement for the commercial fishing sector. **Alternative 3** would be expected to have similar negative biological consequences as **Alternative 2**, but to a lesser degree. Under **Alternative 3**, all reef fish species which occur in the Gulf south of 28°N latitude would be vulnerable to fishing pressure from hook types other than circle hooks. Permitting the use of any hook type may have negative effects on rebuilding plans of other reef-associated species (such as red snapper), and may result in increased discard mortality in multiple fisheries.

Alternative 4 would remove the requirement to use circle hooks when fishing with natural bait for yellowtail snapper south of 28°N latitude in the Gulf. **Option 4a** would remove the requirement for the recreational fishing sector, and **Option 4b** would remove the requirement for the commercial fishing sector. **Alternative 4** would be expected to have similar negative biological consequences as **Alternatives 2** and **3**, albeit to a lesser degree than both. Under **Alternative 4**, all yellowtail snapper which occur in the Gulf south of 28°N latitude would be vulnerable to fishing pressure from hook types other than circle hooks. Permitting the use of any hook type may have negative effects on the rebuilding plans of other reef-associated species (such as red snapper), and may result in increased discard mortality in multiple fisheries.

Alternative 5 would require the use of circle hooks when fishing with natural bait for all reef fish south of 28° North latitude in the exclusive economic zone of the South Atlantic for the recreational fishing sector (**Option 5a**) and/or the commercial sector (**Option 5b**). Such a requirement would make the snapper-grouper regulations in the South Atlantic commensurate with the reef fish regulations for the Gulf of Mexico. Additionally, benefits to the biological environment may be realized for those species with documented decreases in post-release mortality when caught with circle hooks as opposed to other hook types.

Alternative 6 would remove the requirement to use circle hooks when fishing with natural bait for all species in the snapper grouper complex north of 28° North latitude in the exclusive

economic zone of the South Atlantic for the recreational fishing sector (**Option 6a**) and/or the commercial sector (**Option 6b**). This alternative would create homogenous fishing regulations for the selected sector(s) throughout the South Atlantic Council's jurisdiction. Any socio-economic benefits currently realized south of 28° North latitude would be realized north of that line, as would any biological impacts.

Alternative 7 would remove the requirement to use circle hooks when fishing for yellowtail snapper south of 26˚ N latitude in the exclusive economic zone of the Gulf of Mexico for the recreational fishing sector (**Option 7a**) and/or the commercial sector (**Option 7b**). Circle hooks are currently not required when fishing for yellowtail snapper south of 28˚ N latitude in the exclusive economic zone of the South Atlantic. The primary harvest areas for both the recreational and commercial sectors exist south of 26˚ N latitude (Monroe and Dade counties, >70% recreational and >97% commercial). When commercial fishing for yellowtail snapper, fishermen use chum to bring the fish to the surface. Small hooks are baited with natural bait and fish are typically hooked at the surface within five meters of the fishing vessel. This practice has been shown to limit bycatch of non-yellowtail snapper species, since fishermen can actively monitor which fish strike a given bait. Additionally, commercial fishermen believe that the combination of hook size and historical fishing practices can serve as safeguards against bycatch of undersized yellowtail snapper and non-yellowtail snapper species.

***IPT Note**: The Committee may wish to consider establishing safeguards to ensure that a vessel fishing for yellowtail snapper with hooks other than circle hooks is not also actively fishing for other reef fish species for which circle hooks are still required.*

CHAPTER 3. REFERENCES

Böhlke, J.E. and C.C.G. Chaplin. 1993. Fishes of the Bahamas and adjacent tropical waters, 2nd edition. University of Texas Press, Austin, TX. 771 p.

Brulé, T., X. Renan, T. Colas-Marrufo, Y. Hauyon, A.N. Tuz-Sulub, C. Deniel. 2003. Reproduction in the protogynous black grouper (*Mycteroperca bonaci* (Poey)) from the southern Gulf of Mexico. Fisheries Bulletin 101: 463-475.

Bullock, L.H. and M.D. Murphy. 1994. Aspects of the life history of the yellowmouth grouper, *Mycteroperca interstitialis*, in the eastern Gulf of Mexico. Bulletin of Marine Science 55(1):30-45.

Coleman, F.C., Koenig, C.C. and L.A. Collins. 1996. Reproductive styles of shallow-water groupers (Pisces: Serranidae) in the eastern Gulf of Mexico and the consequences of fishing on spawning aggregations. Environmental Biology of Fishes 47: 129-141.

Coleman, F.C., C.C. Koenig, G.R. Huntsman, J.A. Musick, A.M. Eklund, J.C. McGovern, R.W. Chapman, G.R. Sedberry and C.B. Grimes. 2000. Long-lived reef fishes: The grouper-snapper complex. Fisheries 25(3): 14-21.

Crabtree, R.E. and L.H. Bullock. 1998. Age, growth, and reproduction of black grouper, *Mycteroperca bonaci*, in Florida waters. Fisheries Bulletin. 96:735-753.

Erdman, D.S. 1976. Spawning patterns of fishes from the northeastern Caribbean. Agric. Fish. Contrib. Puerto Rico Department of Agriculture Vol. 8.

Figuerola, M, D. Matos-Caraballo, and W. Torres. 1997. Maturation and reproductive seasonality of four reef fish species in Puerto Rico. Proceedings of the Gulf Caribbean Fisheries Institute 50: 938-968.

García-Cagide, A., R. Claro, and B.V. Koshelev. 1994. Reproducción. p. 187-262. In R. Claro (ed.) Ecología de los peces marinos de Cuba. Inst. Oceanol. Acad. Cienc. Cuba. and Cen. Invest. Quintana Roo (CIQRO) México.

Gilmore, R.G. and R.S. Jones. 1992. Color variation and associated behavior in the epinepheline groupers, *Mycteroperca microlepis* (Goode and Bean) and *M. phenax* (Jordan and Swain). Bulletin of Marine Science 51: 83-103.

GMFMC (Gulf of Mexico Fishery Management Council) 2012. Framework action to set the 2013 gag and recreational fishing season and bag limit and modify the February-March shallow-water grouper closed season. Framework Action to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico.

Koenig, C.C., F.C. Coleman, C.B. Grimes, G.R. Fitzhugh, C.T. Gledhill, K.M. Scanlon, and M. Grace. 2000. Protection of essential fish spawning habitat for the conservation of warm

temperate reef fish fisheries of shelf-edge reefs of Florida. Bulletin of Marine Science 66:593-616.

McGovern, J.C., G. R. Sedberry, H. S. Meister, T. M. Westendorff, D. M. Wyanski and P. J. Harris. 2005. A Tag and Recapture Study of Gag, *Mycteroperca microlepis*, from the Southeastern United States. Bulletin of Marine Science 76:47-59.

McGovern, J.C., D.M. Wyanski, O. Pashuk, C.S. Manooch, III, and G.S. Sedberry. 1998. Changes in the sex ratio and size at maturity of gag, *Mycteroperca microlepis*, from the Atlantic coast of the southeastern United States during 1976-1995. Fisheries Bulletin 96:797-807.

Murie, D.J. and D.C. Parkyn. 2013. Preliminary release mortality of Gulf of Mexico greater amberjack from commercial and recreational hand-line fisheries: Integration of fishing practices, environmental parameters, and fish physiological attributes. SEDAR, North Charleston, SC. SEDAR33-DW29. 13 p.

Nemeth, R.S., E. Kadison, S. Herzlieb, J. Blondeau, E.A.Whiteman. 2006. Status of a yellowfin (*Mycteroperca venenosa*) grouper spawning aggregation in the U.S. Virgin Islands with notes on other species. Proceedings of the Gulf and Caribbean Fisheries Institute 57:541-558.

Rielinger, D.M. 1999. Impacts of fishing gear on habitat in Tropical Seas: Gulf of Mexico, South Atlantic, and Caribbean. Reefkeeper International.

SAFMC (South Atlantic Fishery Management Council). 2009. Amendment 16 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region with Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. 608 pp. plus appendices.

SAFMC (South Atlantic Fishery Management Council). 2010a. Amendment 17A to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region with Final Environmental Assessment, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. 375 pp. plus appendices.

SAFMC (South Atlantic Fishery Management Council). 2010b. Amendment 17B to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region with Final Environmental Assessment, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. 406 pp. plus appendices.

SAFMC (South Atlantic Fishery Management Council). 2011. Comprehensive Annual Catch Limit Amendment for the South Atlantic Region with Final Environmental Impact Statement, Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact

Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405. 755 pp. plus appendices.

Sauls, B. and O. Ayala. 2012. Circle hook requirements in the Gulf of Mexico: application in recreational fisheries and effectiveness for conservation of reef fishes. Bulletin of Marine Science 88:667-679.

Sauls, B. and B. Cermak. 2013. Characterization of greater amberjack discards in recreational for-hire fisheries. SEDAR, North Charleston, SC. SEDAR33-DW04. SEDAR, North Charleston, SC. 24 p.

SEDAR 10. 2006. Stock assessment of gag in the South Atlantic. Available from the SEDAR website: www.sefsc.noaa.gov/sedar/

SEDAR 12. 2009. Stock assessment update of red grouper in the Gulf of Mexico. Available from the SEDAR website: www.sefsc.noaa.gov/sedar/

Shapiro, D.Y. 1987. Reproduction in groupers. Pages 295-327 *in* J.J. Polovina and S. Ralston, editors. Tropical snapper and groupers: biology and fisheries management. Westview Press, Boulder and London.

SEDAR 19. 2009. Stock assessment of black grouper. Available from the SEDAR website: www.sefsc.noaa.gov/sedar/

SEDAR 33. 2013. Stock assessment of gag in the Gulf of Mexico. Available from the SEDAR website: www.sefsc.noaa.gov/sedar/

SEDAR 31, 2013. Stock Assessment Report for Gulf of Mexico Red Snapper. Southeast Data, Assessment, and Review. North Charleston, SC. 1103 pp.

SEDAR 33, 2014a. Stock Assessment Report for Gulf of Mexico Gag. Southeast Data, Assessment, and Review. North Charleston, SC. 609 pp.

SEDAR 33, 2014b. Stock Assessment Report for Gulf of Mexico Greater Amberjack. Southeast Data, Assessment, and Review. North Charleston, SC. 499 pp.

Taylor, R.G. and R.H. McMichael, Jr. 1983. The wire fish-trap fisheries in Monroe and Collier counties, Florida. Fla. Mar. Res. Publ., no. 39, FDNR, St. Petersburg, FL (USA), 19 pp.

Thompson, R. and J.L. Munro. 1978. Aspects of the biology and ecology of Caribbean reef fishes: Serranidae (hinds and groupers). J. Fish Biol. 12:115-146.

Williams and J. Carmichael 2009. Final Report: South Atlantic Fishery Independent Monitoring Program Workshop Hosted by the: National Marine Fisheries Service, Southeast Fisheries Science Center and South Atlantic Fishery Management Council.