Amendment 44 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

Specify a single Acceptable Biological Catch and Annual Catch Limit for yellowtail snapper in the South Atlantic and Gulf of Mexico and modify sector allocations and accountability measures for yellowtail snapper.

DRAFT Public Hearing Document

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Definitions, Abbreviations, and Acronyms Used in the Document

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

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Why is the South Atlantic Council Taking Action?

In 2015, commercial landings met the sector annual catch limit (ACL) of 1,596,510 pounds whole weight (lbs ww) for yellowtail snapper in the South Atlantic and commercial harvest was closed on October 31, 2015 for the remainder of the calendar year. In the same year, the recreational sector did not harvest 45% of the recreational sector ACL, resulting in approximately 550,000 lbs ww of the total ACL for yellowtail snapper in the South Atlantic going unharvested.

Because there was a closure of the commercial yellowtail snapper sector in 2015 but several hundred thousand pounds of the total ACL was not landed, the South Atlantic Fishery Management Council (South Atlantic Council) is considering options in Amendment 44 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper Amendment 44) that would allow for quota sharing between the commercial and recreational sectors or would reallocate a portion of the total ACL to the commercial sector. The South Atlantic Council is also considering an action that would specify a single acceptable biological catch (ABC) and single ACL for yellowtail snapper in the Gulf of Mexico and the South Atlantic. (Note: This action was added during the December 2016 South Atlantic Council meeting to obtain public input. The Gulf of Mexico Fishery Management Council was told about this action and they will discuss this potential action at a future Council meeting. Ultimately, for this action to go forward, both Councils would have to amend their fishery management plans to include the same wording on all the specifics of how this action would work). These actions are intended to provide flexibility in managing the ACL for yellowtail snapper and to prevent or reduce the length of harvest closures in the commercial yellowtail snapper sector.

What are the trends in landings of yellowtail snapper in the South Atlantic and Gulf of Mexico Regions?

Table S-1 shows commercial and recreational landings of yellowtail snapper in the Gulf of Mexico and South Atlantic regions from 2005 through 2015, the latest year of finalized data available. In the South Atlantic Region, the current total ACL for yellowtail snapper is 3,037,500 lbs ww that is divided into a commercial ACL of 1,596,510 lbs ww (52.56% of the total ACL) and a recreational ACL of 1,440,990 lbs ww (47.44% of the total ACL). In the Gulf of Mexico Region, the current total ACL for yellowtail snapper is 901,125 lbs ww, which is treated as a stock ACL with no allocation between the commercial and recreational sectors. **Figures S-1** and **S-2** show commercial and recreational landings of yellowtail snapper in relation to the total ACLs for Gulf of Mexico and South Atlantic regions from 2005 through 2015.

Table S-1. Commercial and recreational landings (lbs ww) of yellowtail snapper in the Gulf of Mexico and South Atlantic regions from 2005 through 2015.

	Commercial			Recreational			Combined
Year	Gulf	South Atl.	Total	Gulf	South Atl.	Total	Total
2005	510,437	814,899	1,325,336	31,176	576,247	607,424	1,932,760
2006	542,237	694,958	1,237,195	21,477	560,320	581,797	1,818,992
2007	350,079	628,608	978,687	19,726	786,399	806,126	1,784,813
2008	460,569	910,323	1,370,892	6,056	746,313	752,369	2,123,261
2009	891,925	1,085,281	1,977,206	19,250	348,536	367,787	2,344,993
2010	569,275	1,126,231	1,695,506	8,783	434,259	443,041	2,138,547
2011	769,729	1,125,220	1,894,949	25,560	390,998	416,557	2,311,506
2012	630,984	1,439,586	2,070,570	5,087	493,409	498,495	2,569,065
2013	734,112	1,328,931	2,063,043	6,991	666,026	673,018	2,736,061
2014	798,154	1,245,744	2,043,898	21,536	933,759	955,295	2,999,193
2015	507,398	1,691,807	2,199,205	78,833	791,157	869,989	3,069,194
Average	614,991	1,099,235	1,714,226	22,225	611,584	633,809	2,348,035

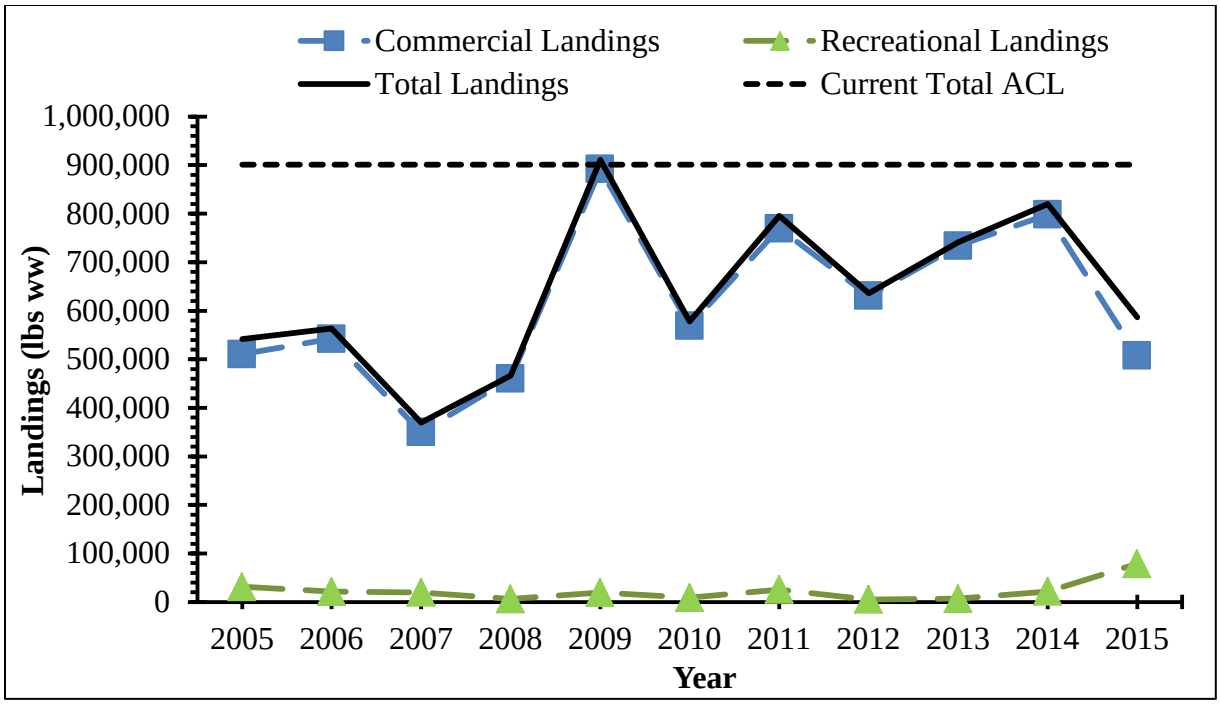


Figure S-1. Landings (lbs ww) of yellowtail snapper in the Gulf of Mexico.

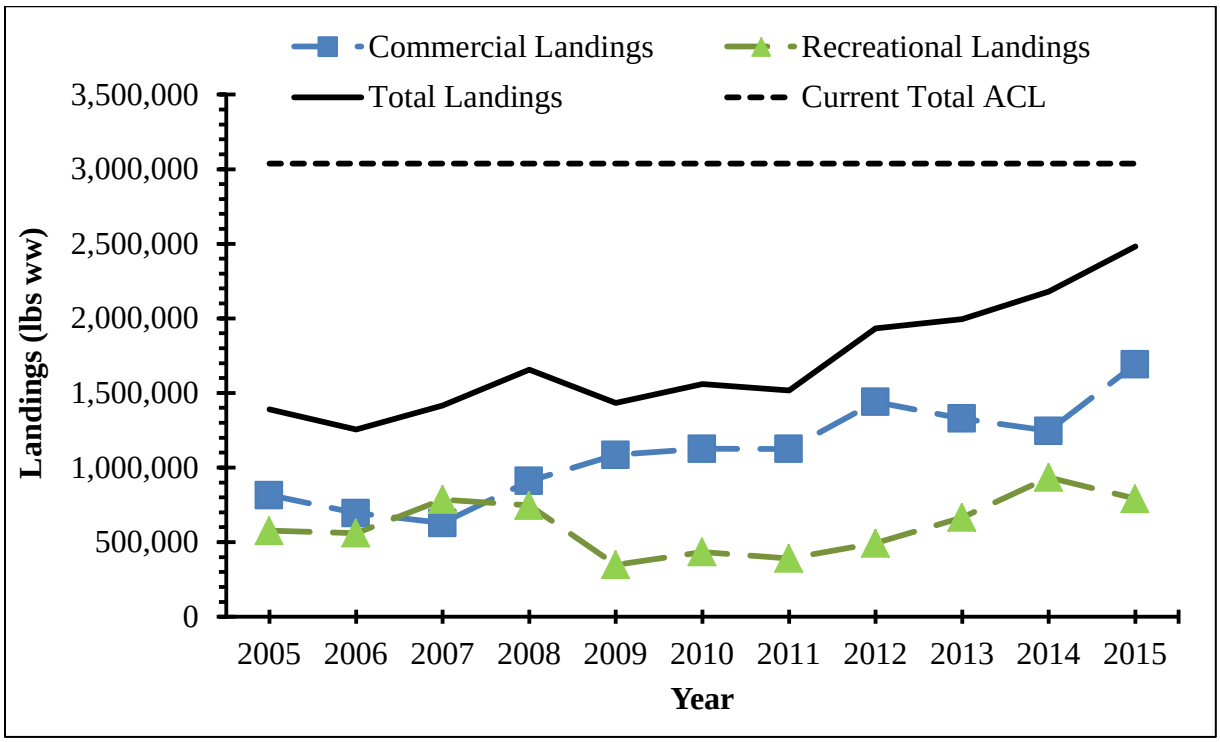


Figure S-2. Landings (lbs ww) of yellowtail snapper in the South Atlantic.

Chapter 1. Introduction

1.1 What Actions Are Being Proposed in Snapper Grouper Amendment 44?

The South Atlantic Council is considering an action that would specify a single acceptable biological catch (ABC) and a single annual catch limit (ACL) for yellowtail snapper in both the Gulf of Mexico and the South Atlantic. Additionally, the South Atlantic Council is considering an action that would allow quota sharing between the commercial and recreational sectors or to reallocate a larger portion of the total ACL to the commercial sector.

South Atlantic Fishery Management Council

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

1.2 Who is Proposing the Management Measures?

The South Atlantic Council is proposing these management measures. The South Atlantic Council recommends management measures and sends them to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment through the development of regulations on behalf of the Secretary of Commerce. NMFS is a line office in the National Oceanic and Atmospheric Administration within the Department of Commerce.

Additionally, the Gulf of Mexico Fishery Management Council (Gulf Council) may also pursue complimentary management measures should both Councils agree to specify a single ABC and a single ACL for yellowtail snapper in the South Atlantic and Gulf of Mexico, combined (**Action 1**). The South Atlantic Council added **Action 1** at their December 2016 meeting. The Gulf Council is aware of this action and will discuss this action at a future meeting.

The South Atlantic Council made versions of the document available during public hearings. The final amendment will be made available during the public comment period on the proposed rule. All versions of the document are or will be available on the South Atlantic Council's and NMFS's websites.

1.3 Where is the Project Located?

The federal snapper grouper fisheries are located off the eastern United States (Atlantic) in the 3-200 nautical miles U.S. exclusive economic zone (EEZ) (**Figure 1-1**).

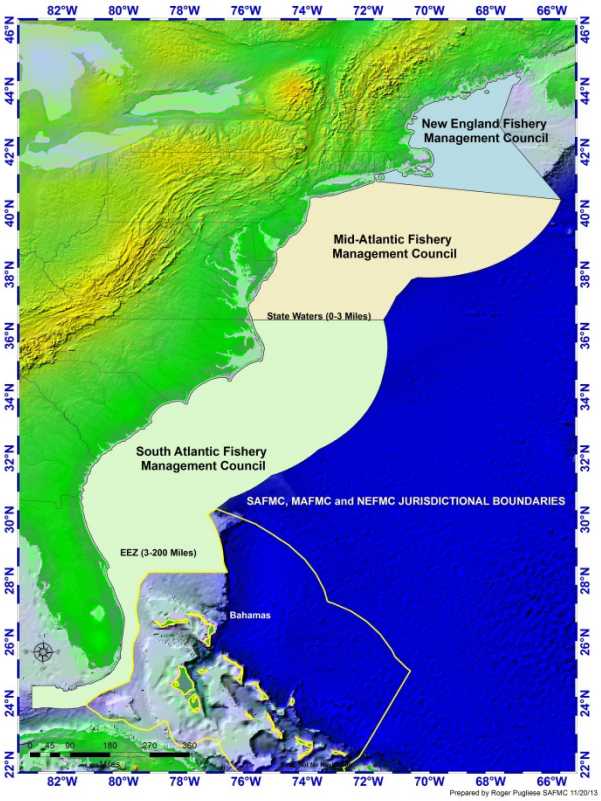


Figure 1-1. Jurisdictional boundaries of the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) as managed by the South Atlantic Council.

1.4 Why are the South Atlantic Council and NMFS Considering this Action?

In 2015, commercial landings met the sector annual catch limit (ACL) of 1,596,510 pounds whole weight (lbs ww) for yellowtail snapper in the South Atlantic and commercial harvest was closed on October 31, 2015 for the remainder of the calendar year. In the same year, the recreational sector did not harvest 45% of the recreational sector ACL, resulting in approximately 550,000 lbs ww of the total ACL for yellowtail snapper in the South Atlantic going unharvested.

Because there was a closure of the commercial yellowtail snapper sector in 2015 but several hundred thousand pounds of the total ACL was not landed, the South Atlantic Fishery Management Council (South Atlantic Council) is considering options in Amendment 44 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper Amendment 44) that would allow for quota sharing between the commercial and recreational sectors or would reallocate a portion of the total ACL to the commercial sector. The South Atlantic Council is also considering an action that would specify a single acceptable biological catch (ABC) and single ACL for yellowtail snapper in the Gulf of Mexico and the South Atlantic. These actions are intended to provide flexibility in managing the ACL for yellowtail snapper and to prevent or reduce the length of harvest closures in the commercial yellowtail snapper sector.

Purpose for Action

The *purpose* of this amendment is to consider options to minimize the risk of in-season closures for yellowtail snapper including: specification of a single acceptable biological catch estimate and a single total annual catch limit in the Gulf of Mexico and South Atlantic Regions; modification of sector allocations; and changing the sector annual catch limits and accountability measures.

Need for Action

The *need* for the amendment is to better achieve optimum yield for yellowtail snapper while minimizing, to the extent possible, adverse social and economic effects due to closures.

1.5 What is the history of management and the Federal regulations for yellowtail snapper?

Regulations affecting the snapper grouper fishery in the South Atlantic were first implemented in 1983. **Table 1.5.1** provides a summary of regulations affecting yellowtail snapper since 1983. Refer to **Appendix D** for the management history of the snapper grouper fishery.

Table 1.5.1. Summary of regulations affecting the yellowtail snapper fishery in the South Atlantic Region since 1983.

Management Action	Amendment	Effective date
-Minimum size limit of 12 inches total length (TL) for yellowtail snapper	FMP	August 1983
-Prohibited longlines south of St. Lucie Inlet, Florida	Amendment 7	January 1995
-Limited entry program for snapper grouper fishery	Amendment 8	August 1998
-Maximum sustainable yield proxy for yellowtail snapper = 30% static spawning potential ratio; optimum yield (OY) proxy is 40% static spawning potential ratio; minimum stock size threshold (MSST) = $1\text{-}M*B_{MSY}$	Amendment 11	December 1999
-Prohibited the sale of snapper grouper harvested or possessed in the EEZ under the bag limits and prohibited the sale of snapper grouper harvested	Amendment 15B	February 2010

or possessed under the bag limits by vessels with a federal charter vessel/headboat permit for South Atlantic snapper grouper were harvested.		
Reorganized fishery management units (FMUs) to 6 complexes (deepwater, jacks, snappers, grunts, shallow-water groupers, porgies); -Established ABC control rule and established ABCs, ACLs, and accountability measures (AMs) for species not undergoing overfishing, including yellowtail snapper; -Established jurisdictional allocation for yellowtail ABC between the South Atlantic and Gulf of Mexico; specified allocations between the commercial and recreational sectors for species not undergoing overfishing.	Comprehensive ACL Amendment	April 2012
-Modified ACLs and OY for yellowtail snapper; -Modified the commercial and recreational yellowtail snapper fishing years and commercial spawning season closure.	Regulatory Amendment 15	September 2013
-Modified the definition of the overfished threshold (MSST) for red snapper, blueline tilefish, gag, black grouper, yellowtail snapper, vermilion snapper, red porgy, and greater amberjack.	Regulatory Amendment 21	November 2014
Modified AMs for snapper grouper species (including yellowtail snapper) to make them consistent.	Amendment 34	February 2016

-Revised the commercial and recreational fishing year for yellowtail snapper.	Regulatory Amendment 25	August 2016

In the Gulf of Mexico, yellowtail snapper were included in the 33 species (15 snappers, 15 groupers, and 3 sea basses) that comprised the original fishery management unit for the Fishery Management Plan for the Reef Fish Fishery of the Gulf of Mexico (Reef Fish FMP; GMFMC 1984). The first reef fish regulations, implemented in November 1984, included 1) prohibitions on the use of fish traps, roller trawls, and powerheads within an inshore stressed area; 2) construction requirements, maximum size, and numerical limits for fish traps; and 3) permit requirements for fish trap operators. In addition, reporting requirements were implemented for fish traps, commercial vessel owners and operators, and dealers and processors.

Amendment 1 to the Reef Fish FMP, implemented in 1990, established a 12-inch total length minimum size limit on yellowtail snapper. A 10 snapper aggregate recreational bag limit was also created, which included yellowtail snapper. The stressed area was expanded to run along the entire Gulf of Mexico coastline, and a commercial vessel permit was established for the harvest and sale of reef fish. Amendment 1 also established an OY goal for all reef fish of 20% spawning stock biomass per recruit (SSBR) relative to the SSBR that would occur with no fishing, and an overfished stock was defined as a stock biomass below 20% SSBR. Overfishing was defined, for a stock that is not overfished, as fishing at a rate that would not allow harvest of optimum yield on a continuing basis, and for a stock that is overfished, as fishing at a rate that is not consistent with rebuilding the stock to 20% SSBR. The spawning stock biomass per recruit terminology was later replaced with spawning potential ratio.

Amendment 5, implemented in February 1994, established a fish trap endorsement for vessel permits of permittees who had logbook landings of reef fish from fish traps in 1991 or 1992 through November 19, 1992, and established a three-year moratorium during which those endorsements would be non-transferable. The amendment also required that traps must be returned to shore at the end of each fishing trip; that each trap must be individually buoyed, or if fished in a trawl (several traps connected by a submerged line) a floating buoy is required at each end of the trawl; and prohibited the possession of magnesium pop-up devices. The amendment also created a special management zone with gear restrictions off the Alabama coast, created a framework procedure for establishing future special management zones, required that all finfish except for oceanic migratory species be landed with head and fins attached, and closed the region of Riley's Hump (near Dry Tortugas, Florida) to all fishing during May and June to protect mutton snapper spawning aggregations.

Amendment 11 was partially approved by NMFS and implemented in January 1996. It established a permit requirement for reef fish charter vessels and headboats, and modified the transferability provisions of reef fish trap endorsements.

Amendment 12 was implemented in January 1997. It established an EEZ aggregate recreational daily bag (possession) limit of 20-reef fish per angler for all reef fish not having a bag limit. Yellowtail snapper remained in the separate 10-snapper aggregate bag limit for snappers other than red, lane and vermilion.

Amendment 14, implemented in March and April 1997, provided for a ten-year phase-out for the fish traps; allowed transfer of fish trap endorsements for the first two years and thereafter only upon death or

disability of the endorsement holder, to another vessel owned by the same entity, or to any of the 56 individuals who were fishing traps after November 19, 1992, and were excluded by the moratorium; and prohibited the use of fish traps west of Cape San Blas, Florida. The amendment also provided the Regional Administrator of NMFS with authority to reopen a fishery prematurely closed before the allocation was reached, and modified the provisions for transfer of commercial reef fish vessel permits. In addition, the amendment prohibited the harvest or possession of Nassau grouper in the Gulf of Mexico EEZ, consistent with similar prohibitions in Florida state waters, the South Atlantic EEZ, and the Caribbean EEZ.

Amendment 27 was implemented in June 2008, required the use of non-stainless steel circle hooks when using natural baits to fish for Gulf reef fish, and required the use of venting tools and dehooking devices when participating in the commercial or recreational reef fish fisheries.

The **Generic ACL/Accountability Measures Amendment** was implemented in January 2012, established ACLs, optional annual catch targets (ACT), and AMs for all stocks under Gulf Council management that required such parameters and did not already have them. For yellowtail snapper, the amendment established an apportionment of ABC, with 75% apportioned to the South Atlantic jurisdiction and 25% to the Gulf of Mexico jurisdiction. For the Gulf of Mexico apportionment, the amendment established a yellowtail snapper stock ACL of 0.725 million pounds whole weight, and a stock ACT of 0.645 million pounds whole weight.

A **framework action**, effective September 3, 2013, increased the Gulf of Mexico yellowtail snapper ACL from 725,000 lbs ww to 901,125 lbs ww, and removed the requirement to have onboard and use venting tools when releasing reef fish.

1.6 What are the recreational regulations for yellowtail snapper in Florida State Waters?

In Florida snapper grouper species are required to be landed whole in State waters. For Florida snapper grouper regulations, see:
https://www.flrules.org/gateway/ChapterHome.asp?Chapter=68B-14

1.7 What are annual catch limits and accountability measures and why are they required?

A reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) in 2007 required implementation of new tools to end and prevent overfishing to achieve the OY from a fishery. The tools are ACLs and AMs. An ACL is the level of annual catch of a stock that, if met or exceeded, triggers some corrective action. The AMs are the corrective action, and they are management controls to prevent ACLs from being exceeded and to correct overages of ACLs if they occur. Two examples of AMs include an in-season closure if catch is projected to reach the ACL and reducing the ACL by an overage that occurred the previous fishing year. The South Atlantic Council took action in Amendment 34 to the Snapper Grouper FMP (SAFMC 2015) to enhance the effectiveness of the AMs for yellowtail snapper.

Definitions

Annual Catch Limits (ACL)
The level of annual catch (pounds or numbers) that triggers accountability measures to ensure that overfishing is not occurring.

Annual Catch Targets (ACT)
The level of annual catch (pounds or numbers) that is the management target of the fishery, and accounts for management uncertainty in controlling the actual catch at or below the ACL.

Accountability Measures (AM)
Management controls to prevent ACLs, including sector ACLs, from being exceeded, and to correct or mitigate overages of the ACL if they occur.

Allocations
A division of the overall ACL among sectors (e.g., recreational and commercial) to create sector ACLs.

Maximum Sustainable Yield (MSY)
Largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions.

Optimum Yield (OY)
The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Minimum Stock Size Threshold (MSST)
A status determination criterion. If current stock size is below MSST, the stock is overfished.

1.8 How does the South Atlantic Council determine the annual catch limits?

ACLs are derived from the overfishing limit (OFL) and the ABC **(Figure 1.7.1)**. The South Atlantic Council's Scientific and Statistical Committee (SSC) determines the OFL from the stock assessment and the ABC (based on the South Atlantic Council/SSC's ABC control rule), and recommends those to the South Atlantic Council. The OFL is an estimate of the catch level above which overfishing is occurring. The ABC is defined as the level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty.

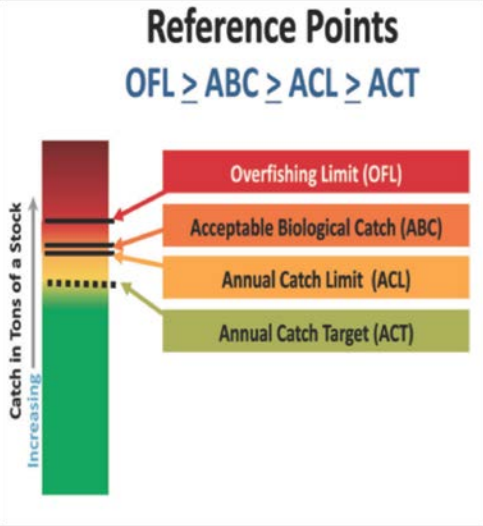


Figure 1.7.1. The relationship of the reference points to each other.

The Magnuson-Stevens Act National Standard 1 (NS 1) guidelines establish the relationship between conservation and management measures, preventing overfishing, and achieving OY from each stock, stock complex, or fishery. The NS 1 guidelines discuss the relationship of the OFL to the maximum sustainable yield (MSY) and ACL to OY. The OFL is an annual amount of catch that corresponds to the estimate of maximum fishing mortality threshold applied to a stock; MSY is the long-term average of such catches. The ACL is the limit that triggers AMs and is the management target for the species. Management measures for a fishery should, on an annual basis, prevent the ACL from being exceeded. The long-term objective is to achieve OY through annual achievement of an ACL. The NS 1 guidelines state that if OY is set close to MSY, the conservation and management measures in the fishery must have very good control of the amount of catch to achieve the OY without overfishing.

The updated framework procedure included in Amendment 17B to the Snapper Grouper FMP (SAFMC 2010b) allows for the timely establishment and adjustment of ACLs if the South Atlantic Council and the NMFS determine they are necessary.

The NS 1 guidelines recommend a performance standard by which the efficacy of any system of ACLs and AMs can be measured and evaluated. According to the guidelines:

> *…if catch exceeds the ACL for a given stock or stock complex more than once in the last four years, the system of ACLs and AMs should be re-evaluated, and modified if necessary, to improve its performance and effectiveness (74 FR 3178).*

If an evaluation concludes that the ACL is chronically exceeded for any one species or species group, and post-season AMs are repeatedly needed to correct for ACL overages, adjustments to management measures would be made. As stated previously, the updated framework procedure implemented through Amendment 17B (SAFMC 2010b) could be utilized to modify management measures such as bag limits, trip limits, seasonal closures, and gear prohibitions in a timely manner. Using the regulatory amendment process to implement such changes, if needed, is the timeliest method of addressing issues associated with repeated ACL overages through permanent regulations.

With vastly improved commercial monitoring mechanisms now in place in the South Atlantic Region, it is unlikely that repeated commercial ACL overages would occur. The National Marine Fisheries Service Commercial Landings Monitoring (CLM) system came online in June 2012 and is now being used to track commercial landings of federally managed fish species. The CLM system can track dealer reporting compliance with a direct link to the permits database at the NMFS Southeast Regional Office. Additionally, the Joint Seafood Dealer Reporting Amendment (GMFMC & SAFMC 2013b), which became effective on August 7, 2014, requires electronic reporting, increases required reporting frequency for dealers to once per week, and requires a single dealer permit for all finfish dealers in the Southeast Region. The CLM system and actions in the Joint Generic Dealer Reporting amendment are expected to provide more timely and accurate data reporting and would thus reduce the incidence of quota overages.

Harvest monitoring efforts in the recreational sector are also improving in the South Atlantic Region. On January 27, 2014, regulations became effective requiring headboats to report their landings electronically once per week (Generic Headboat Amendment, GMFMC & SAFMC 2013a). The Southeast Fisheries Science Center is also developing an electronic reporting system for charter boats operating in the Southeast Region and the Gulf of Mexico and South Atlantic Councils are developing amendments that would require electronic reporting for charterboats with a set reporting frequency.

1.9 How does the Gulf Council determine the annual catch limits?

Similar to the South Atlantic Council, ACLs are derived from the OFL and the ABC. The Gulf Council's ABC control rule is used by the Gulf Council's SSC to make ABC recommendations. In contrast to the South Atlantic, Gulf of Mexico, yellowtail snapper are not allocated between the commercial and recreational sectors. Instead, they are managed with a single stock ACL rather than separate commercial and recreational sector ACLs.

1.10 What is the status of yellowtail snapper in the South Atlantic and Gulf of Mexico?

Yellowtail snapper are assessed as a single stock but are managed separately by the South Atlantic and Gulf Councils. The South Atlantic and Gulf of Mexico regions are combined for the assessment, and the resulting ABC is divided with 75% of the ABC assigned to the South Atlantic jurisdiction and 25% to the Gulf of Mexico jurisdiction. Currently, the stock ABC is 2.9 million pounds, with 0.725 million pounds (25% of ABC) going to the Gulf of Mexico. This value is currently being used for the Gulf of Mexico yellowtail snapper stock ACL.

In 2012, the Florida Fish and Wildlife Research Institute (FWRI) conducted a yellowtail snapper benchmark stock assessment (O'Hop et al. 2012). The assessment was conducted with a statistical catch-at-age model (ASAP2). Fishery-dependent data included commercial logbooks, Marine Recreational Fishery Statistics Survey (MRFSS), and the headboat survey. The MRFSS data were used rather than the new Marine Recreational Information Program (MRIP) data to maintain consistency with older data that has not yet been converted from MRFSS to MRIP. Fishery-independent data came from the NMFS/University of Miami Reef Visual Census. Results from the assessment indicate that, as of 2010, the yellowtail snapper stock is neither overfished nor experiencing overfishing. A more complete description of the benchmark assessment is contained in Chapter 3.

Because the yellowtail snapper stock assessment straddled the jurisdictions of the Gulf and South Atlantic Councils, the assessment was reviewed in October 2012 by a joint meeting of the South Atlantic Council's SSC and the Gulf Council's Standing and Special Reef Fish SSC. The joint SSC established OFL at the equilibrium MSY yield is 4.61 million pounds (mp) total removals (landings plus dead discards), or 4.51 mp in landings. Using the Gulf and South Atlantic Councils ABC control rules resulted in an ABC of 4.13 mp total removals, or 4.05 mp in landings. When divided between the South Atlantic and Gulf of Mexico jurisdictions, the resulting regional ABCs recommended by the joint SSC in terms of landed catch were **South Atlantic: 3.0375 mp ww and Gulf of Mexico: 1.0125 mp ww.**

1.11 How does the South Atlantic and Gulf of Mexico Councils determine the division in the ABC?

The South Atlantic and Gulf of Mexico Councils established a jurisdictional allocation based on the Florida Keys (Monroe County) jurisdictional boundary between the Gulf of Mexico and South Atlantic regions for yellowtail snapper acceptable biological catch (ABC) based on the following method:

South Atlantic = 75% of ABC and **Gulf of Mexico** = 25% of ABC

This was established by using 50% of average landings from 1993-2008 + 50% of average landings from 2006-2008. The jurisdictional allocation method was set in the South Atlantic Council's Comprehensive Annual Catch Limit (ACL) Amendment in 2011.

1.12 How does the South Atlantic Council determine the sector allocations?

The South Atlantic Council set the yellowtail snapper sector allocations using the following method:

Sector allocation = (0.5 * catch history) + (0.5 * current trend)

Whereby, the *catch history* = average landings 1986-2008 and the *current trend* = average landings 2006-2008. The commercial and recreational allocations specified and resulting sector ALCs will remain in effect until modified. The sector allocation method was set in the South Atlantic Council's Comprehensive Annual Catch Limit (ACL) Amendment in 2011.

Chapter 2. Proposed Actions

2.1 Action 1. Specify a single Acceptable Biological Catch (ABC) and Annual Catch Limits (ACLs) for yellowtail snapper in the South Atlantic and Gulf of Mexico.

Alternative 1 (No action).

The total ABC for yellowtail snapper is split between the South Atlantic and Gulf of Mexico regions, with 75% of the ABC allocated to the South Atlantic and 25% of the ABC allocated to the Gulf of Mexico.

South Atlantic: The current acceptable biological catch (ABC) for yellowtail snapper is 3,037,500 pounds whole weight (ww). The current total annual catch limit (ACL) (equal to ABC) is 3,037,500 lbs ww. The current commercial sector allocation for yellowtail snapper is 52.56% (1,596,510 lbs ww) of the total ACL and the current recreational sector allocation for yellowtail snapper is 47.44% (1,440,990 lbs ww) of the total ACL.

Gulf of Mexico: The current ABC for yellowtail snapper is 1,012,500 lbs ww. The current total ACL (11% less than ABC) is 901,125 lbs ww. There are no sector specific allocations for yellowtail snapper in the Gulf of Mexico.

South Atlantic Accountability Measures (AM)
The current commercial AM is an in-season closure if the commercial ACL is met or projected to be met. The commercial ACL is reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The current recreational AM is an in-season closure if the recreational ACL is met or projected to be met. A shortening of the recreational season may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season is not reduced if the Regional Administrator determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be shortened and the recreational ACL reduced in the following fishing year by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

Gulf of Mexico Accountability Measure (AM)
If the sum of the commercial and recreational landings, as estimated by the Science and Research Director, 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, the Assistant Administrator will file a notification with the Office of the Federal Register to close the commercial and recreational sectors for the remainder of that fishing year.

Alternative 2. Manage yellowtail snapper as a single unit with an overall combined acceptable biological catch and combined total ACL, but manage the ACL under the South Atlantic sector allocations and accountability measures (AMs).

Alternative 3: Manage yellowtail snapper as a single unit with an overall combined acceptable biological catch and total ACL, but manage the total ACL under the Gulf of Mexico accountability measure.

2.1.1 Comparison of Alternatives

2.2 Action 2. Revise sector allocations and accountability measures for South Atlantic yellowtail snapper.

Alternative 1 (No Action). The current recreational sector allocation for yellowtail snapper is 47.44% (1,440,990 lbs ww) of the total ACL. The current commercial sector allocation for yellowtail snapper is 52.56% (1,596,510 lbs ww) of the total ACL. Note: Total ACL=ABC=OY.

The current commercial AM includes an in-season closure to take place if the commercial ACL is met or projected to be met. If the commercial ACL is exceeded, it will be reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The current recreational AM includes an in-season closure to take place if the recreational ACL is met or projected to be met. It also includes a shortening of the recreational season that may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season will not be reduced if the RA determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be reduced and the ACL in the following fishing year will be reduced by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

Alternative 2. Maintain current sector ACLs, but revise AM to not close either sector until total ACL is met. Note: Total ACL=ABC=OY

Alternative 3. Modify sector ACLs.

> **Sub-alternative 3a.** Allocate 42% (1,275,750 lbs ww) of the total ACL to the recreational sector. Allocate 58% (1,761,750 lbs ww) of the total ACL to the commercial sector. (Based on average landings from 2005-2014)
> **Sub-alternative 3b**. Allocate 40% (1,215,000 lbs ww) of the total ACL to the recreational sector. Allocate 60% (1,822,500 lbs ww) of the total ACL to the commercial sector. (Based on 2013 landings).
> **Sub-alternative 3c**. Allocate 30% (911,250 lbs ww) of the total ACL to the recreational sector. Allocate 70% (2,126,250 lbs ww) of the total ACL to the commercial sector. (Based on 2012 landings)
> **Sub-alternative 3d**. Allocate 28% (850,500 lbs ww) of the total ACL to the recreational sector. Allocate 72% (2,187,000 lbs ww) of the total ACL to the commercial sector. (Based on 2011 landings)

Alternative 4. Set aside a portion of the total ACL that can be used by either sector as a common pool allocation. Note: Total ACL=ABC=OY

Sub-alternative 4a: 1% (30,375 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (3,007,125 lbs ww) is split between the recreational sector (1,426,580 lbs ww) and the commercial sector (1,580,545 lbs ww) according to the current allocation.

Sub-alternative 4b: 2.5% (75,938 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,961,562 lbs ww) is split between the recreational sector (1,404,965 lbs ww) and the commercial sector (1,556,597 lbs ww) according to the current allocation.

Sub-alternative 4c: 5% (151,875 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,885,625 lbs ww) is split between the recreational sector (1,368,941 lbs ww) and the commercial sector (1,516,685 lbs ww) according to the current allocation.

Sub-alternative 4d: 10% (303,750 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,733,750 lbs ww) is split between the recreational sector (1,296,891 lbs ww) and the commercial sector (1,436,859 lbs ww) according to the current allocation.

Alternative 5: Conditionally transfer a certain percentage (Sub-alternatives 5a-5d) of the ACL from a sector that is not landing its ACL to the other sector that is landing all or almost all of its ACL in the next fishing year, if the minimum landings threshold is not met for the donating sector (Sub-alternatives 5e-5g). If the receiving sector does not land at least 90% of its unadjusted ACL, this transfer will not occur. The highest landings from the donating sector based on available finalized data from the five years prior will be used as criteria to determine if allocation transfers will occur. Note: Total ACL=ABC=OY

Conditional ACL Transfer (MUST CHOOSE ONE):

Sub-alternative 5a: Conditionally transfer 5% of the unadjusted ACL of one sector to the other sector.

Sub-alternative 5b: Conditionally transfer 10% of the unadjusted ACL of one sector to the other sector.

Sub-alternative 5c: Conditionally transfer 15% of the unadjusted ACL of one sector to the other sector.

Sub-alternative 5d: Conditionally transfer 20% of the unadjusted ACL of one sector to the other sector.

Donating sector's ACL Minimum Threshold (MUST CHOOSE ONE), if the donating sector's landings are:

Sub-alternative 5e: less than 50% of its unadjusted ACL.

Sub-alternative 5f: less than 65% of its unadjusted ACL.

Sub-alternative 5g: less than 75% of its unadjusted ACL.

2.2.1 Comparison of Alternatives

Chapter 3. Affected Environment

Snapper Grouper Amendment 44 addresses the jurisdictional acceptable biological catch and annual catch limits (ACL) for yellowtail snapper in the South Atlantic and Gulf of Mexico as well as allocations and accountability measures of South Atlantic yellowtail snapper. The reader is referred to Regulatory Amendment 14 to the Snapper Grouper FMP (SAFMC 2014b) for details on the affected environment for the species in the Atlantic exclusive economic zone (EEZ); and summarized below.

3.1 Habitat Environment

Information on the habitat utilized by snapper grouper species in the South Atlantic Region is included in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b) and incorporated here by reference. The Fishery Ecosystem Plan can be found at: http://www.safmc.net/ecosystem-management/fishery-ecosystem-plan-1. Many snapper grouper species utilize both pelagic and benthic habitats during several stages of their life histories; larval stages of these species live in the water column and feed on plankton. Most juveniles and adults are demersal (bottom dwellers) and associate with hard structures on the continental shelf that have moderate to high relief (e.g., coral reef systems and artificial reef structures, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings). Juvenile stages of some snapper grouper species also utilize inshore seagrass beds, mangrove estuaries, lagoons, oyster reefs, and embayment systems. In many species, various combinations of these habitats may be utilized during daytime feeding migrations or seasonal shifts in cross-shelf distributions.

3.1.1 Essential Fish Habitat

Essential fish habitat (EFH) is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S. C. 1802(10)). For snapper grouper species, specific categories of EFH identified in the South Atlantic, which are utilized by federally managed fish and invertebrate species, include both estuarine/inshore and marine/offshore areas. Specifically, estuarine/inshore EFH includes: Estuarine emergent and mangrove wetlands, submerged aquatic vegetation, oyster reefs and shell banks, intertidal flats, palustrine emergent and forested systems, aquatic beds, and estuarine water column. Additionally, marine/offshore EFH includes: live/hard bottom habitats, coral and coral reefs, artificial and manmade reefs, *Sargassum* species, and marine water column.

EFH utilized by snapper grouper species in this region includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs, and medium to high profile outcroppings on and around the shelf break zone from shore to at least 183 meters [600 ft (but to at least 2,000 ft for wreckfish)] where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical fish complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for survival of larvae and growth up to and including settlement.

In addition, the Gulf Stream is also EFH because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine-dependent and near shore snapper grouper species, EFH includes areas inshore of the 30 meter (100-ft) contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom habitats.

3.1.2 Habitat Areas of Particular Concern

EFH-HAPC for species in the Snapper Grouper Fishery Management Unit (FMU) includes medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; near shore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper grouper (e.g., Primary and Secondary Nursery Areas designated in North Carolina); pelagic and benthic *Sargassum*; Hoyt Hills for wreckfish; the Oculina Bank Habitat Area of Particular Concern; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; South Atlantic Council-designated Artificial Reef Special Management Zones (SMZs); and deep-water MPAs. Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, postlarval, juvenile, and adult stages).

In addition to protecting habitat from fishing related degradation though fishery management plan regulations, the South Atlantic Council, in cooperation with National Marine Fisheries Service (NMFS), actively comments on non-fishing projects or policies that may impact essential fish habitat. With guidance from the Habitat Advisory Panel, the South Atlantic Council has developed and approved policies on: energy exploration, development, transportation and hydropower re-licensing; beach dredging and filling and large-scale coastal engineering; protection and enhancement of submerged aquatic vegetation; alterations to riverine, estuarine and near shore flows; offshore aquaculture; and marine invasive species and estuarine invasive species.

See **Appendix J** for detailed information on EFH and EFH-HAPCs for all South Atlantic Council managed species.

3.2 Biological and Ecological Environment

The marine environment in the Atlantic management area affected by actions in this environmental assessment is defined by two components (**Figure 3-1**).

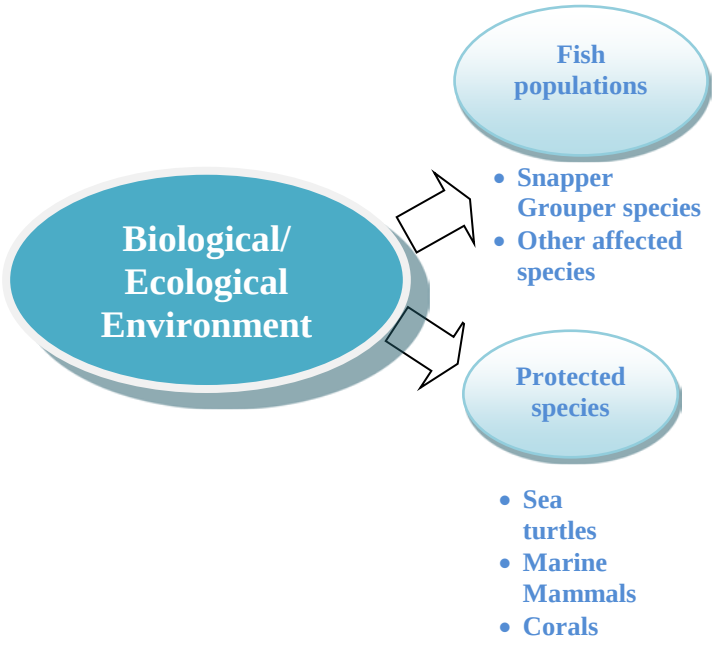


Figure 3-1. Two components of the biological environment described in this document for the South Atlantic Region and the Gulf of Mexico. They are found near the surface around natural and artificial objects, including *Sargassum* (in the Atlantic).

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit contains 55 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (e.g., black sea bass, red porgy) while the tropical variety's core residence is in the waters off south Florida, Caribbean Islands, and northern South America (e.g., black grouper, mutton snapper). These are reef-dwelling species that live amongst each other. These species rely on the reef environment for protection and food. There are several reef tracts that follow the southeastern coast. The fact that these fish populations congregate dictates the nature of the fishery (multi-species) and further forms the type of management regulations proposed in this document. Additional background information regarding the snapper grouper fish populations can be found in the Snapper Grouper FMP (SAFMC 1983) at: http://www.safmc.net/resource-library/snapper-grouper

3.2.1 Fish Populations

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit contains 55 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (e.g., black sea bass, red porgy) while the tropical variety's core residence is in the waters off south Florida, Caribbean Islands, and northern South America (e.g., black grouper, mutton snapper). These are reef-dwelling species that live amongst each other. These species rely on the reef environment for protection and food. There are several reef tracts that follow the southeastern coast. The fact that these fish populations congregate dictates the nature of the fishery (multi-species) and further forms the

type of management regulations proposed in this document. Additional background information regarding the snapper grouper fish populations can be found in the Snapper Grouper FMP (SAFMC 1983) at: http://www.safmc.net/resource-library/snapper-grouper

3.2.2 Yellowtail Snapper

Snapper grouper species that may be affected by the proposed action include 55 species in the Snapper Grouper FMU. The life history, biological characteristics, and stock status of each assessed species may be found in their respective Southeast Data, Assessment, and Review (SEDAR) reports listed on the SEDAR web site http://www.sefsc.noaa.gov/sedar/.

Life History

Yellowtail snapper, *Ocyurus chrysurus*, occurs in the Western Atlantic, ranging from Massachusetts to southeastern Brazil, including the Gulf of Mexico and Caribbean Sea, but is most common in the Bahamas, off south Florida, and throughout the Caribbean. Most U.S. landings are from the Florida Keys and southeastern Florida. The yellowtail snapper inhabits waters as deep as 180 m (590 ft), and usually is found well above the bottom (Allen 1985). Muller et al. (2003) state that adults typically inhabit sandy areas near offshore reefs at depths ranging from 10 to 70 m (33-230 ft). Thompson and Munro (1974) indicate that this species is most abundant at depths of 20-40 m (66-131 ft) near the edges of shelves and banks off Jamaica. Juveniles are usually found over back reefs and seagrass beds (Thompson and Munro 1974; Muller et al. 2003). Yellowtail snapper exhibits schooling behavior (Thompson and Munro 1974).

Maximum reported size is 86.3 cm (34.2 in) TL (male) and 4.1 kg (9.1 lbs) (Allen 1985). Maximum age is 17 years (Manooch and Drennon 1987). Natural mortality is estimated at 0.20 with a range of 0.15-0.25 (Muller et al. 2003). There is a truncation in the size and age structure of yellowtail snapper near human population centers.

Yellowtail snapper have separate sexes throughout their lifetime (i.e., they are gonochoristic). Figuerola et al. (1997) estimated size at 50% maturity as 22.4 cm (8.9 in) FL (males) and 24.8 cm (9.8 in) FL (females), based on fishery independent and dependent data collected off Puerto Rico.

Spawning occurs over a protracted period and peaks at different times in different areas. In southeast Florida, spawning occurs during spring and summer with peak spawning in May-July (Grimes 1987, Muller et al. 2003). The spawning season for yellowtail snapper held in captivity was March to October with peak periods in March and July (Soletchnik et al.1989). Spawning may occur year-round in the Bahamas and Caribbean (Grimes 1987). Figuerola et al. (1997) reported that, in the U.S. Caribbean, spawning occurs during February to October, with a peak from April to July. Erdman (1976) reported that 80% of adult yellowtail snapper captured off San Juan spawn during March through May. Spawning occurs in offshore waters (Figuerola et al. 1997; Thompson and Munro 1974) and during the new moon (Figuerola et al. 1997). Large spawning aggregations are reported to occur seasonally off Cuba, the Turks and Caicos, and USVI. A large spawning aggregation occurs during May-July at Riley's Hump near the Dry Tortugas off Key West, Florida (Muller et al. 2003).

Yellowtail snapper are nocturnal predators. Juveniles feed primarily on plankton (Allen 1985; Thompson and Munro 1974). Adults eat a combination of planktonic (Allen 1985), pelagic (Thompson and Munro 1974), and benthic organisms, including fishes, crustaceans, worms, gastropods, and cephalopods (Allen 1985). Bortone and Williams (1986) stated that both juveniles and adults feed on fish, shrimp, and crabs.

3.2.6 Stock Status of Yellowtail Snapper

Stock assessments are not available for all 55 species within the Snapper Grouper FMU. Available stock assessments for snapper grouper species may be found in their respective SEDAR reports listed on the SEDAR web site http://www.sefsc.noaa.gov/sedar/.

A benchmark assessment for yellowtail snapper was conducted by the state of Florida in 2012 with data through 2010 (FWRI 2012). Most of the data sources were simply updated with the additional years of observations available since the SEDAR 3 benchmark (SEDAR 2003). Additional changes made in some sources, such as recreational length measurements, indices, and discards are detailed below. In addition, changes were made in model configuration to address new information, management actions, and improvements in the estimation of assessment uncertainty. Several sensitivity runs were performed to explore the model's sensitivity to changes in the release mortality.

The 2012 assessment showed that yellowtail snapper are **not overfished** and **overfishing is not occurring**. The spawning stock biomass (SSB) was over three times higher than the SSB that would produce the maximum sustainable yield, or SSB_{MSY} (335.7% of SSB_{MSY}, **Table 3.2.6.1**). Fishing mortality (F) at the time of the assessment was well below F_{MSY} (18.9% of F_{MSY}, **Table 3.2.6.1**). Stock biomass showed a period of stability until the mid-1990s followed by an increasing trend that continued into recent years (**Figure 3.2.6.1**). Also, there was no trend in the level of recruitment entering the stock, but there was a large amount of year-to-year variation (**Figure 3.2.6.2**). The fact that the population continued to grow despite large fluctuations in recruitment, coupled with the fact that F was only 19% of F_{MSY} and SSB was over three times higher than SSB_{MSY}, suggests that recruitment was not being affected by stock size or fishing pressure during the assessment period, but by variations in environmental factors. These diagnostics suggest that the stock, as of the date of the assessment, was being sustainably harvested and that the rate of exploitation and total take could increase without detriment to the stock.

Table 3.2.6.1. Management parameters from the 2012 benchmark assessment for yellowtail snapper. Values are given for maximum sustainable yield (MSY), the fishing mortality at MSY (F_{MSY}), the fishing mortality from the terminal year of the assessment (F_{2010}), spawning stock biomass at MSY (SSB_{MSY}), the minimum stock size threshold (MSST), and the spawning stock biomass from the terminal year of the assessment (SSB_{2010}).

Parameter	Value
FMSY	0.24
F2010	0.0454
SSBMSY (mt)*	3,072
MSST (mt)	2,488
SSB2010 (mt)	10,311
MSY (mt)	2,088

* The value of SSB_{MSY} given here is calculated using the original proxy value of MSY, which is 30% of the spawning potential ratio and has a value of 1,700 mt. The estimated empirical value of SSB_{MSY} was not available in the assessment report.

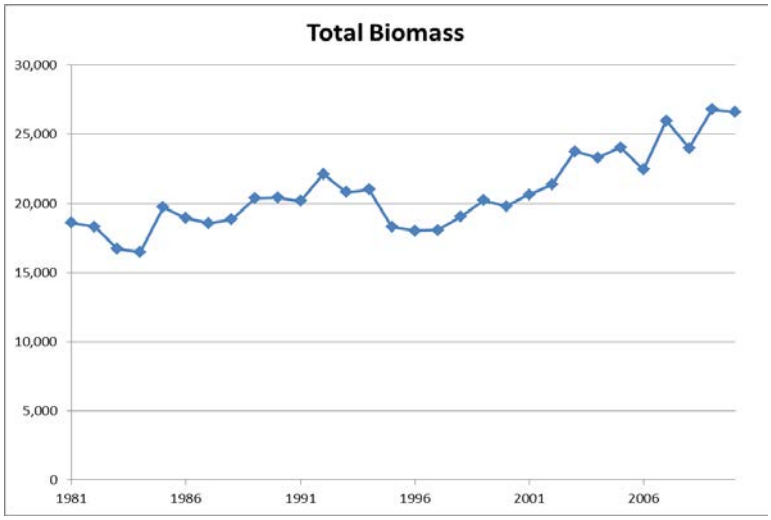


Figure 3.2.6.1. Total biomass of yellowtail snapper in metric tons.
Data are from the 2012 assessment report for yellowtail snapper, Florida Fish and Wildlife Conservation Commission.

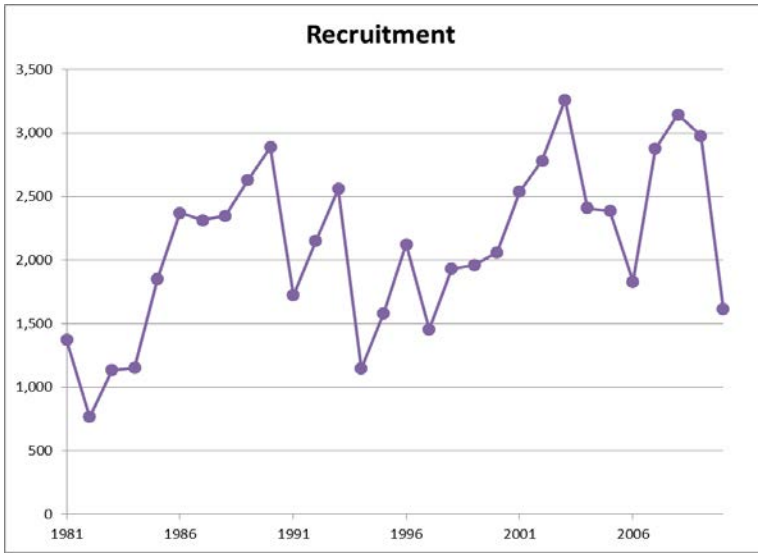


Figure 3.2.6.2. Annual recruitment of yellowtail snapper expressed as biomass of age 1 fish in metric tons.
Data are from the 2012 assessment report for yellowtail snapper, Florida Fish and Wildlife Conservation Commission.

3.2.7 Protected Species

There are 40 listed species protected by federal law that may occur in the exclusive economic zone (EEZ) of the South Atlantic Region and are under the purview of NMFS. Thirty-one of these species are marine mammals protected under the Marine Mammal Protection Act (MMPA). Six of these marine mammal species (sperm, sei, fin, blue, humpback, and North Atlantic right whales) are also listed as endangered under the Endangered Species Act (ESA). In addition to those six marine mammals, five species of sea turtles (green, hawksbill, Kemp's ridley, leatherback, and loggerhead); the smalltooth sawfish; five distinct population segments (DPSs) of Atlantic sturgeon; and two *Acropora* coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]) are also protected under the ESA. Portions of designated critical habitat for North Atlantic right whales and *Acropora* corals occur within the South Atlantic Council's jurisdiction. Additionally, on September 10, 2014, NMFS listed 20 new coral species under the ESA, five of those species occur in the Caribbean (including Florida) and all of these are listed as threatened. The 2 previously listed *Acropora* coral species remain protected as threatened. The potential impacts from the continued authorization of the South Atlantic Snapper Grouper Fishery on currently listed protected species have been considered in previous ESA Section 7 consultations or subsequent memoranda. Those consultations indicate that of the species listed above, sea turtles and smalltooth sawfish are the most likely to interact with these fisheries and are therefore discussed further below.

Turtles

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and travel widely throughout the South Atlantic. The following sections are a brief overview of the general life history characteristics of the sea turtles found in the South Atlantic region. Several volumes exist that cover the biology and ecology of these species more thoroughly (i.e., Lutz and Musick (eds.) 1997, Lutz et al. (eds.) 2003).

Green sea turtle hatchlings are thought to occupy pelagic areas of the open ocean and are often associated with *Sargassum* rafts (Carr 1987, Walker 1994). Pelagic stage green sea turtles are thought to be carnivorous. Stomach samples of these animals found ctenophores and pelagic snails (Frick 1976, Hughes 1974). At approximately 20 to 25 cm carapace length, juveniles migrate from pelagic habitats to benthic foraging areas (Bjorndal 1997). As juveniles move into benthic foraging areas a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also know to consume jellyfish, salps, and sponges (Bjorndal 1980, 1997; Paredes 1969; Mortimer 1981, 1982). The diving abilities of all sea turtles species vary by their life stages. The maximum diving range of green sea turtles is estimated at 110 m (360 ft) (Frick 1976), but they are most frequently making dives of less than 20 m (65 ft.) (Walker 1994). The time of these dives also varies by life stage. The maximum dive length is estimated at 66 minutes with most dives lasting from 9 to 23 minutes (Walker 1994).

The **hawksbill's** pelagic stage lasts from the time they leave the nesting beach as hatchlings until they are approximately 22-25 cm in straight carapace length (Meylan 1988, Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

Kemp's ridley hatchlings are also pelagic during the early stages of life and feed in surface waters (Carr 1987, Ogren 1989). Once the juveniles reach approximately 20 cm carapace length they move to relatively shallow (less than 50m) benthic foraging habitat over unconsolidated substrates (Márquez-M. 1994). They have also been observed transiting long distances between foraging habitats (Ogren 1989). Kemp's ridleys feeding in these nearshore areas primarily prey on crabs, though they are also known to ingest mollusks, fish, marine vegetation, and shrimp (Shaver 1991). The fish and shrimp Kemp's ridleys ingest are not thought to be a primary prey item but instead may be scavenged opportunistically from bycatch discards or from discarded bait (Shaver 1991). Given their predilection for shallower water, Kemp's ridleys most routinely make dives of 50 m or less (Soma 1985, Byles 1988). Their maximum diving range is unknown. Depending on the life stage a Kemp's ridleys may be able to stay submerged anywhere from 167 minutes to 300 minutes, though dives of 12.7 minutes to 16.7 minutes are much more common (Soma 1985, Mendonca and Pritchard 1986, Byles 1988). Kemp's ridleys may also spend as much as 96% of their time underwater (Soma 1985, Byles 1988).

Leatherbacks are the most pelagic of all ESA-listed sea turtles and spend most of their time in the open ocean. Although they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles,

leatherbacks' diets does not shift during their life cycle. Because leatherbacks' ability to capture and eat jellyfish is not constrained by size or age, they continue to feed on these species regardless of life stage (Bjorndal 1997). Leatherbacks are the deepest diving of all sea turtles. It is estimated that these species can dive in excess of 1,000 m (Eckert et al. 1989) but more frequently dive to depths of 50 m to 84 m (Eckert et al. 1986). Dive times range from a maximum of 37 minutes to more routines dives of 4 to 14.5 minutes (Standora et al. 1984, Eckert et al. 1986, Eckert et al. 1989, Keinath and Musick 1993). Leatherbacks may spend 74% to 91% of their time submerged (Standora et al. 1984).

Loggerhead hatchlings forage in the open ocean and are often associated with *Sargassum* rafts (Hughes 1974, Carr 1987, Walker 1994, Bolten and Balazs 1995). The pelagic stage of these sea turtles are known to eat a wide range of things including salps, jellyfish, amphipods, crabs, syngnathid fish, squid, and pelagic snails (Brongersma 1972). Stranding records indicate that when pelagic immature loggerheads reach 40-60 cm straight-line carapace length they begin to live in coastal inshore and nearshore waters of the continental shelf throughout the U.S. Atlantic (Witzell 2002). Here they forage over hard- and soft-bottom habitats (Carr 1986). Benthic foraging loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke et al. 1993). Estimates of the maximum diving depths of loggerheads range from 211 m to 233 m (692-764ft.) (Thayer et al. 1984, Limpus and Nichols 1988). The lengths of loggerhead dives are frequently between 17 and 30 minutes (Thayer et al. 1984, Limpus and Nichols 1988, Limpus and Nichols 1994, Lanyan et al. 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994, Lanyan et al. 1989).

Fish

Historically the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. In the South Atlantic region, they are most commonly found in Florida, primarily off the Florida Keys (Simpfendorfer and Wiley 2004). Only two smalltooth sawfish have been recorded north of Florida since 1963 [the first was captured off North Carolina in 1963 and the other off Georgia in 2002 (National Smalltooth Sawfish Database, Florida Museum of Natural History)]. Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 m (Bigelow and Schroeder 1953, Adams and Wilson 1995), while mature animals occur in waters in excess of 100 meters (Simpfendorfer pers. comm. 2006). Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938, Bigelow and Schroeder 1953).

3.3 Human Environment

3.3.1 Economic Environment

A description of the yellowtail stock is provided in **Section 3.2**. The following amendments are referenced to provide economic environment information regarding the U.S. snapper grouper fishery. These amendments include Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2008a), Amendment 15B (SAFMC 2008b), Amendment 16 (SAFMC 2009c), Amendment 27 (SAFMC 2014a), Regulatory Amendment 9 (SAFMC 2011b), and Comprehensive ACL Amendment for the South Atlantic Region (SAFMC 2011a) and are incorporated herein by reference.

3.3.1.2. Commercial Sector

The major sources of data summarized in this description are the NMFS SERO Permits Information Management System (PIMS) and the Federal Logbook System (FLS), supplemented by average prices calculated from the Accumulated Landings System (ALS) and price indices taken from the Bureau of Labor Statistics (BLS). Inflation adjusted revenues, prices, economic impacts are reported in 2015 dollars.

Permits

Any fishing vessel that harvests and sells snapper grouper species from the Atlantic EEZ must have a valid South Atlantic commercial snapper grouper permit, which is a limited access permit. After a permit expires, it can be renewed or transferred up to one year after the date of expiration. The number of valid or renewable snapper grouper permits declined steadily from 2011 through 2015 (**Table 3.3.2.1**). The permit numbers presented are based on the valid or renewable permits occurring on December 31 of each year.

Table 3.3.2.1. Number of valid or renewable Atlantic commercial snapper grouper permits (2011 through 2015).

Year	Unlimited	225-lb Trip-limited
2011	576	128
2012	561	122
2013	557	117
2014	542	113
2015	540	108
Average	555	118

Source: NMFS SERO Permits Dataset.

Landings, Revenue, and Effort

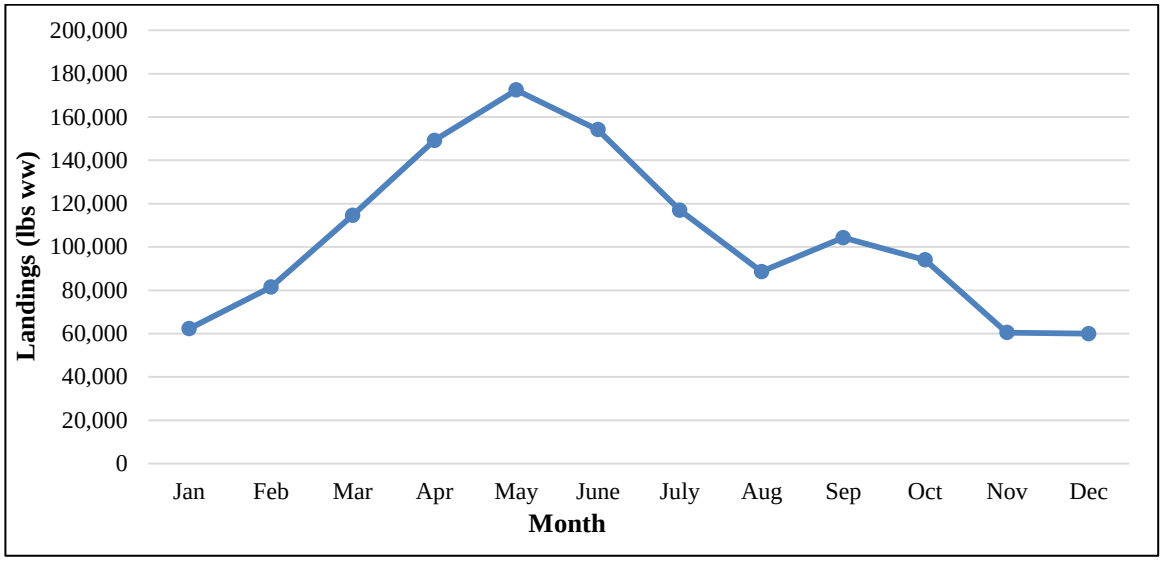
Landings of yellowtail snapper from 2011 to 2015 along with the respective commercial ACL and percentage of the commercial ACL landed are presented in **Table 3.3.2.2**. The commercial allocation has remained at 52.56% of the total yellowtail ACL, which is currently 1,596,510 lbs (ww). Commercial landings of yellowtail snapper are typically recorded each year in North Carolina, South Carolina, and Georgia, however the vast majority of the landings in the South Atlantic occur in Florida (99.8%).

Table 3.3.2.2. Total commercial landings (lbs ww) and ACL (lbs ww) for yellowtail snapper harvested from the South Atlantic, 2011-2015.

Year	Landings	Sector ACL	Percentage ACL Landed
2011*	1,125,220	-	-
2012	1,439,586	1,142,589	126%
2013	1,328,931	1,596,510	83%
2014	1,245,744	1,596,510	78%
2015	1,691,807	1,596,510	106%
Average	1,366,258	-	-

Source: NMFS SERO ACL Files
*ACL did not go into place until 2012

Average monthly commercial landings of yellowtail snapper from 2011-2015 are displayed in **Figure 3.3.2.1**. The landings tend to be the highest in the late spring and early summer, followed by a lower peak in the fall. While typically lower than most other months, the average landings for November and December were decreased as a result of the closure that occurred in the commercial fishery in October 31, 2015. If 2015 landings data are excluded, the average landings for November and December are approximately 20% higher over the time series.



Source: NMFS SEFSC SAFE Dataset
Figure 3.3.2.1. Average monthly commercial landings (lbs ww) of yellowtail snapper harvested from the South Atlantic, 2011-2015.

On average (from 2011 through 2015), for the vessels that landed yellowtail each year, yellowtail snapper accounted for 30% of all species landings and 20% of all species revenue (**Table 3.3.2.3** and **Table 3.3.2.4**). Vessels with reported landings of yellowtail snapper took almost the same number of non-yellowtail snapper trips as yellowtail snapper trips. The average annual price per pound (ww) of yellowtail snapper during 2011 through 2015 was $3.10 (2015 dollars) and average prices ranged from a high of $3.41 in 2014 to a low of $2.80 in 2015.

Table 3.3.2.3 Number of vessels, number of trips, and landings by year for vessels that landed yellowtail snapper from the South Atlantic, 2011-2015.

Year	Number of vessels that caught yellowtail snapper (> 0 lbs)	Number of trips that caught yellowtail snapper	Yellowtail snapper landings (lbs ww)	Other species' landings jointly caught with yellowtail snapper (lbs ww)	Number of SATL trips that only caught other species	Other species' landings on SATL trips without yellowtail snapper (lbs ww)
2011	267	3,917	1,033,376	366,465	4,117	2,450,864
2012	257	3,883	1,054,384	389,184	3,831	2,143,177
2013	235	3,560	1,104,671	372,172	3,218	1,617,522
2014	250	4,220	941,211	414,252	4,791	2,635,429
2015	240	3,939	1,186,699	333,085	3,745	1,950,174
Average	250	3,904	1,064,068	375,032	3,940	2,159,433

Source: Personal communication, Office of Science and Technology, November 5th, 2016

Table 3.3.2.4 Number of vessels and gross ex-vessel revenues by year for vessels that landed yellowtail snapper from the South Atlantic, 2011-2015 (2015 dollars).

Year	Number of vessels that caught yellowtail snapper	Gross ex-vessel revenue from yellowtail snapper	Gross ex-vessel revenue from 'other species' jointly caught with yellowtail snapper	Gross ex-vessel revenue from 'other species' caught on SATL trips without yellowtail snapper	Total gross ex-vessel revenue	Average total gross ex-vessel revenue per vessel
2011	267	$3,249,262	$790,228	$5,539,396	$15,061,663	$34,153
2012	257	$3,389,862	$790,184	$5,627,325	$15,419,212	$33,740
2013	235	$3,214,832	$944,810	$5,041,011	$15,176,487	$36,134
2014	250	$3,212,559	$1,102,854	$9,109,216	$20,875,097	$44,321
2015	240	$3,327,801	$819,467	$7,090,297	$16,285,379	$41,757
Average	250	$3,278,863	$889,509	$6,481,449	$16,563,568	$38,021

Source: Personal communication, Office of Science and Technology, November 5th, 2016

Imports

Imports of seafood products compete in the domestic seafood market and have dominated many segments of the seafood market. Imports aid in determining the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports have downstream effects on the local fish market. At the harvest level for snapper species, including yellowtail snapper, imports affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production of snappers, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings. The following describes the imports of fish products which directly compete with domestic harvest of snappers, including yellowtail snapper.

Imports[1] of fresh snapper were 21.7 million lbs product weight (pw) in 2011. Imports increased to 22.7 million lbs pw in 2012, then continued to increase steadily to 26.1 million lbs pw in 2015. Total revenue from fresh snapper imports increased from $64.5 million (2015 dollars[2]) in 2011 to a five-year high of $78.9 million in 2015. Imports of fresh snappers primarily originated in Central America or the Caribbean and entered the U.S. through the ports of Miami and New York City. Imports of fresh snapper were somewhat consistent, but were lowest in January and May.

Imports of frozen snapper were substantially less than imports of fresh snapper from 2011 through 2015. Frozen snapper imports were 8.5 million lbs in 2011. Imports of frozen snapper generally increased over time, with 12.3 million lbs of frozen snapper imported in 2015. The annual value of frozen snapper imports was $20.9 million (2015 dollars) in 2011 and had increased to $33.2 million in 2015. Imports of frozen snapper primarily originated from countries in the Southwestern Pacific Ocean and South America. Much like fresh imports, the majority of frozen snapper imports entered the U.S. through the ports of Miami and New York and tended to be the highest from July through December.

Business Activity

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as yellowtail snapper purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods and services. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic effects may be distributed through regional markets and should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Estimates of the average annual business activity associated with the commercial harvest of yellowtail snapper, and all species harvested by the vessels that harvested yellowtail snapper, were derived using the model developed for and applied in NMFS (2011b) and are provided in **Table 3.3.2.5**. This business activity is characterized as full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), value-added impacts (difference between the value of goods and the cost of materials or supplies), and output (sales) impacts (gross business sales). Income impacts or value added impacts should not be added to output (sales) impacts because this would result in double counting. It should be noted that the results provided should be interpreted with caution and demonstrate the limitations of these types of assessments. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. For example, the results provided here apply to a general

[1] NOAA Fisheries Service purchases fisheries trade data from the Foreign Trade Division of the U.S. Census Bureau. Data are available for download at http://www.st.nmfs.noaa.gov/st1/trade/index.html.

[2] Converted to 2014 dollars using the 2014 annual Consumer Price Index (CPI) for all US urban consumers provided by the Bureau of Labor and Statistics (BLS) (http://www.bls.gov/data/).

reef fish category rather than just yellowtail snapper and a harvester job is "generated" for approximately every $31,000 in ex-vessel revenue. These results contrast with the information provided in **Table 3.3.2.4**, which shows an average of 250 harvesters (vessels) with recorded landings of yellowtail snapper from 2011 through 2015.

Table 3.3.2.5. Average annual business activity (2011 through 2015) associated with the commercial harvest of yellowtail snapper and the harvest of all species by vessels that landed yellowtail snapper from the South Atlantic. All monetary estimates are in 2015 dollars.

Species	Average Gross Ex-vessel Revenue ($ thousands)	Total Jobs	Harvester Jobs	Income Impacts ($ thousands)	Value-Added Impacts ($ thousands)	Output (Sales) Impacts ($ thousands)
Yellowtail snapper	$3,279	444	105	$11,941	$16,871	$32,516
All species on all trips made by vessels that landed greater than one pound of yellowtail snapper.	$16,564	2,245	533	$60,321	$85,227	$164,258

Source: Calculated using the model developed for NMFS (2016).

3.3.2.2 Recreational Sector

The recreational sector of the snapper grouper fishery is comprised of a private and for-hire component. The private component includes anglers fishing from shore (including all land-based structures) and private/rental boats. The for-hire component is composed of charter boats and headboats (also called party boats). Charter boats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

The major sources of data summarized in this description are the NMFS SERO Permits Information Management System (PIMS) and Marine Recreational Information Program (MRIP), supplemented by price indices taken from the Bureau of Labor Statistics (BLS) to adjust for inflation. Inflation adjusted revenues, values, and economic impacts are reported in 2015 dollars.

Permits

For-hire vessels are required to have a for-hire snapper grouper permit to fish for or possess yellowtail snapper in the South Atlantic EEZ. This sector operates as an open access fishery and not all permitted vessels are necessarily active in the fishery. The total number of for-hire vessel permits issued for the South Atlantic snapper grouper fishery decreased over most of the time period, but an increase in the number of permits was seen in 2015 (**Table 3.3.2.6**). The majority of the snapper grouper for-hire permitted vessels were home-ported in Florida.

Table 3.3.2.6. Number of Atlantic for-hire snapper grouper permits by homeport state, 2011-2015.

Year	North Carolina	South Carolina	Georgia	Florida	Other States	Total
2011	272	105	22	927	164	1,490
2012	253	110	22	937	157	1,479
2013	246	127	24	884	151	1,432
2014	241	134	28	878	146	1,427
2015	262	157	32	886	132	1,469
Average	255	127	26	902	150	1,459

Source: NMFS SERO Permits Database.

Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the Southeast Fisheries Science Center (SEFSC) that the vessel primarily operates as a headboat. The number of registered headboats operating in the South Atlantic remained relatively steady from 2011 through 2015, with an average of 76 South Atlantic for-hire vessels operating in the SRHS annually (**Table 3.3.2.7**).

Table 3.3.2.7 Number of headboats in the South Atlantic 2011-2015.

Year	Number of Vessels
2011	77
2012	78
2013	76
2014	76
2015	74
Average	76

Source: NMFS SRHS Program.

There are no specific permitting requirements for recreational anglers to harvest yellowtail snapper. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment.

Landings

Landings of yellowtail snapper from 2011 to 2015 along with the respective recreational ACL and percentage of the recreational ACL landed are presented in **Table 3.3.2.8**. The recreational allocation is 47.44%% of the total yellowtail ACL, which is 1,440,990 lbs (ww. With the exception of a very limited amount of recreationally caught yellowtail snapper

intercepted in North Carolina in 2014, recreational landings present in the dataset have only occurred in Florida.

Table 3.3.2.8. Total recreational landings (lbs ww) and ACL (lbs ww) for yellowtail snapper harvested from the South Atlantic, 2011-2015.

Year	Landings	Sector ACL	Percentage ACL Landed
2011*	390,998	-	-
2012	493,409	1,031,286	48%
2013	666,026	1,440,990	46%
2014	933,759	1,440,990	65%
2015	791,157	1,440,990	55%
Average	655,070	-	-

Source: NMFS SEFSC MRIP ACL datasets (October 2016)
*ACL did not go into place until 2012

Angler Effort

Recreational effort derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or the second primary target for the trip. The species did not have to be caught.

Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.

Total recreational trips - The total estimated number of recreational trips, regardless of target intent or catch success.

Other measures of effort are possible, such as directed trips (the number of individual angler trips that either targeted or caught a particular species). **Table 3.3.2.9** and **Table 3.3.2.10** present target and catch effort estimates associated with yellowtail snapper. Target and catch trips are shown by fishing mode (shore, charter, and private/rental vessel). The majority of the estimated target and catch effort for yellowtail snapper occurred via the private/rental vessel mode.

Recreational target trips for yellowtail snapper generally exceed catch trips. The 2011-2015 average target trips were 4,403 for the shore mode, 25,098 for the charter mode, and 138,280 for the private/rental mode (**Table 3.3.2.9**). In contrast, the average catch trips were 36,157 for the shore mode, 39,103 for the charter mode, and 160,272 for the private/rental mode (**Table 3.3.2.10**). While there is a relatively strong interest in fishing for yellowtail snapper among recreational anglers, the species is often caught incidentally, particularly on shore-based trips.

Table 3.3.2.9 Estimated number of angler trips that targeted yellowtail snapper in the South Atlantic by mode, 2011-2015.

Year	Shore	Charter	Private/Rental Vessel	Total
2011	0	9,800	80,405	90,205
2012	20,523	31,962	57,576	110,061
2013	0	33,040	237,544	270,584
2014	1,492	33,440	233,895	268,828
2015	0	17,247	81,981	99,228
Average	4,403	25,098	138,280	167,781

Source: NMFS MRIP Data Files

Table 3.3.2.10 Estimated number of angler trips that caught yellowtail snapper in the South Atlantic by mode, 2011-2015.

Year	Shore	Charter	Private/Rental Vessel	Total
2011	29,790	18,032	73,874	121,697
2012	24,902	34,682	111,626	171,210
2013	29,306	54,852	240,184	324,342
2014	44,219	40,417	225,035	309,671
2015	52,566	47,534	150,642	250,742
Average	36,157	39,103	160,272	235,532

Source: NMFS MRIP Data Files

Similar analysis of recreational effort is not possible for the headboat mode because headboat data are not collected at the angler level. Estimates of effort by the headboat mode are provided in terms of angler days, or the total number of standardized full-day angler trips[3]. Headboat effort, in terms of angler days, increased substantially in Florida/Georgia from 2011 through 2015, while effort remained relatively constant in North Carolina and South Carolina (**Table 3.3.2.11**). Headboat effort was the highest, on average, during the summer months of June through August (**Table 3.3.2.12**).

Table 3.3.2.11. South Atlantic headboat angler days by state, 2011-2015.

Year	NC	SC	GA/FLE	Total
2011	18,457	44,645	132,492	195,594
2012	20,766	41,003	147,699	209,468
2013	20,547	40,963	165,679	227,189
2014	22,691	42,025	195,890	260,606
2015	22,716	39,702	194,979	257,397
Average	21,035	41,668	167,348	230,051

Source: NMFS SRHS Program

[3] Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

Table 3.3.2.12. South Atlantic Headboat angler days and percent distribution by month (2011-2015).

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2011	4.3%	5.7%	7.3%	9.4%	9.6%	15.9%	17.7%	11.5%	5.9%	4.4%	3.5%	4.8%
2012	4.6%	4.8%	8.7%	9.8%	9.0%	13.7%	17.4%	12.4%	8.0%	4.3%	3.3%	4.1%
2013	4.5%	4.8%	6.4%	7.1%	9.2%	14.6%	17.4%	14.9%	7.2%	6.4%	2.9%	4.6%
2014	3.4%	5.2%	7.6%	8.7%	9.9%	15.0%	16.9%	12.6%	5.8%	5.8%	3.5%	5.6%
2015	4.9%	4.3%	8.5%	9.8%	9.8%	14.3%	16.5%	12.0%	6.1%	5.2%	3.7%	4.9%
Average	4.3%	5.0%	7.7%	9.0%	9.5%	14.7%	17.2%	12.7%	6.6%	5.2%	3.4%	4.8%

Source: NMFS SRHS Program

Economic Value

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus (CS). The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

Direct estimates of the CS for yellowtail snapper are not currently available. There are, however, estimates for snapper species in general. Haab et al. (2012) estimated the CS (willingness to pay (WTP) for one additional fish caught and kept) for snappers in the southeastern U.S. using four separate econometric modeling techniques. Any CS estimates derived for yellowtail snapper using snapper as a proxy should be viewed as ballpark estimates only. The finite mixture model, which takes into account variation in the preferences of fishermen, had the best prediction rates of the four models. The WTP for an additional snapper (excluding red snapper) estimated by this model was $12.38 (2015 dollars[4]) with a 95% confidence interval (CI) of $8.26 to $17.89. This value may seem low and may be strongly influenced by the pooling effect inherent to the model in which it was estimated. The WTP for an additional snapper from the mixed-logit model was higher at $30.29 (2015 dollars) with a 95% CI of $20.64 to $39.92.

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The estimated NOR value is $153.63 (2015 dollars) per charter angler trip (Carter and Liese 2012). The estimated NOR value per headboat angler trip is $53.03 (2015 dollars) (SAFMC 2016). Estimates of NOR per yellowtail snapper target trip are not available.

[4] Estimates converted to 2014 dollars using the 2014 annual Consumer Price Index (CPI) for all US urban consumers provided by the Bureau of Labor and Statistics (BLS) (http://www.bls.gov/data/).

The foregoing estimates of economic value should not be confused with economic impacts associated with recreational fishing expenditures. Although expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for yellowtail snapper were derived using average impact coefficients for recreational angling for all species, as derived from an add-on survey to the MRIP to collect economic expenditure information, as described and utilized in NMFS (2011b). Estimates of the average expenditures by recreational anglers are also provided in NMFS (2011b) and are incorporated herein by reference.

Recreational fishing generates business activity (economic impacts). Business activity for the recreational sector is characterized in the form of full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), value-added impacts (difference between the value of goods and the cost of materials or supplies), output (sales) impacts (gross business sales). Estimates of the average target effort (2011-2015) for yellowtail snapper and associated business activity (2015 dollars) are provided in **Table 3.3.2.13**. The average impact coefficients, or multipliers, used in the model are invariant to the "type" of effort and can therefore be directly used to measure the impact of other effort measures such as catch trips if desired. To calculate the multipliers from **Table 3.3.2.13**, simply divide the desired impact measure (income impact, value-added impact, output impact, or jobs) associated with a given mode by the number of target trips for that mode. It should be noted that the presented business activity solely focusses on trip expenditures and does not include business activity generated by expenditures on durable goods. While aggregate data does exist on durable goods expenditures, they cannot be specifically attributed to a species or group of species, as these goods can last multiple years and be used in a wide range of other fisheries and often times for uses other than fishing.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in the MRIP, so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted.

Table 3.3.2.13. Summary of South Atlantic yellowtail snapper target trips (2011 through 2015 average) and associated business activity (2015 dollars).

Mode	Average Annual Target Trips	Jobs	Income Impacts ($ thousands)	Value-Added Impacts ($ thousands)	Output (Sales) Impacts ($ thousands)
Shore	4,403	4	$192	$324	$583
Charter	25,098	181	$9,158	$13,539	$23,301
Private/Rental Vessel	138,280	90	$4,343	$7,507	$13,526
Total	167,781	275	$13,693	$21,370	$37,410

Source: effort data from MRIP; economic impact results calculated using the model developed for NMFS (2016).

3.3.2 Social Environment

Social Importance of Fishing

Socio-cultural values are qualitative in nature making it difficult to measure social valuation of marine resources and fishing activity. The following description includes multiple approaches to examining fishing importance. These spatial approaches focus on the community level (based on the address of dealers or permit holders) and identify importance by "community," defined according to geo-political boundaries (cities). A single county may thus have several communities identified as reliant on fishing and the boundaries of these communities are not discrete in terms of residence, vessel homeport, and dealer address. For example, a fisherman may reside in one community, homeport his vessel in another, and land his catch in yet another.

One approach to identify communities with the greatest engagement utilizes measures called the Regional Quotient (RQ) to identify commercial reliance. The RQ is a way to measure the relative importance of a given species across all communities in the region and represents the proportional distribution of commercial landings of a particular species. This proportional measure does not provide the number of pounds or the value of the catch, data which might be confidential at the community level for many places. The RQ is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities in the region. For most species, the top fifteen communities are reported as they usually encompass most of the landings. At this time we do not have a comparable measure for recreational fishing but do have other measures of engagement for that sector.

These measures are an attempt to quantify the importance of the components of a particular fishery to communities along the Atlantic coast and suggest where impacts from management actions are more likely to be experienced. The descriptions of the snapper grouper fishery that follow include these quantitative measures in addition to qualitative information about the communities. It should be noted that these vessels may also participate in the coastal migratory pelagics (CMP) and dolphin wahoo (DW) fisheries as well, but because the actions in this amendment focus on snapper grouper fisheries, a description of the social environment associated with the CMP and DW fisheries will not be included in this section. A detailed

description of the CMP and DW fisheries can be found in CMP Amendment 20A (GMFMC/SAFMC 2013) and DW Amendment Regulatory Amendment 1 (SAFMC 2016).

Snapper Grouper Fishery

The snapper grouper fishery is considered to be of substantial social and cultural importance in the South Atlantic region. The description of the snapper grouper fishery focuses on available geographic and demographic data to identify communities with strong relationships with snapper grouper harvest (i.e., significant landings and revenue), and positive or negative impacts from regulatory change are expected to occur in places with greater landings of snapper grouper species.

The descriptions of South Atlantic communities below include information about the top communities based upon regional quotients of commercial landings and value for all federally managed snapper grouper species. These top communities are referred to in this document as either "yellowtail snapper communities" or "snapper grouper communities" because these are the areas that would be most likely to experience the effects of proposed actions that could change the snapper grouper fishery and impact the participants and associated businesses and communities within the region. Additionally, the descriptions also include reliance and engagement indices to identify other areas in which yellowtail snapper or snapper grouper species are important, and provide information of how a community overall is involved with commercial and recreational fishing and could experience effects from regulatory actions for any species. The identified communities in this section are referenced in the social effects analyses in **Section 4** in order to provide information on how the alternatives could affect specific areas.

Commercial Snapper Grouper Communities in the South Atlantic

Using the regional quotient to identify yellowtail snapper communities, **Figure 3.3.2.5** shows landings and value regional quotient for yellowtail snapper fishing communities in the South Atlantic. The vast majority of yellowtail snapper landings occur in Florida and Key West is clearly the top community in terms of landings and value of yellowtail far outdistancing the other Florida communities. Other states have landings of yellowtail but they are negligible in terms of their ranking of RQ

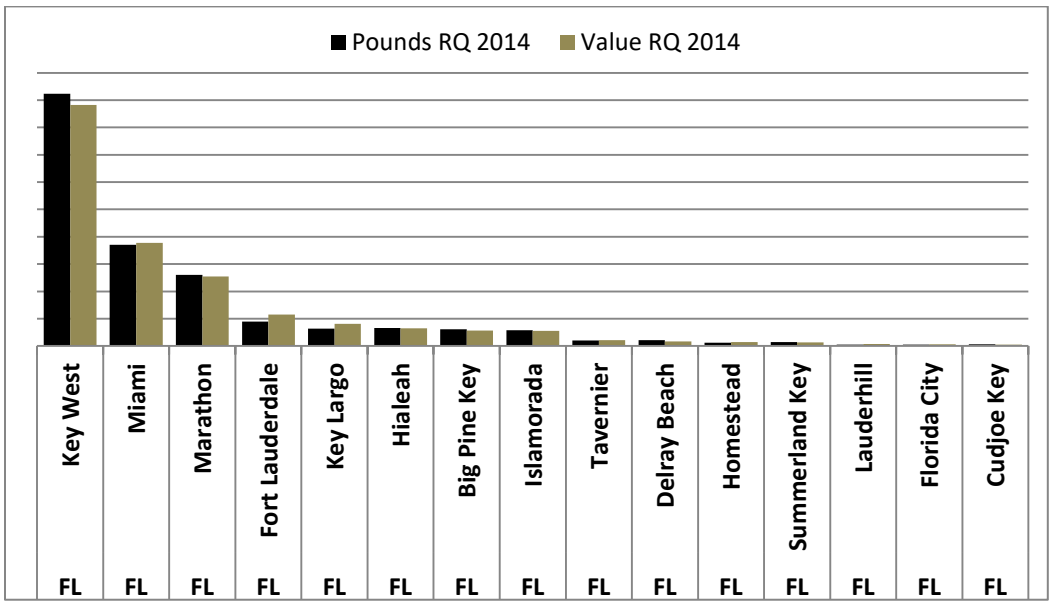


Figure 3.3.2.5. Yellowtail Snapper Value and Pounds Regional Quotient for South Atlantic Fishing Communities in 2014.
(Source: SERO).

Reliance on and Engagement with Recreational Snapper Grouper Fishing in South Florida

Figure 3.3.2.6 shows the top communities with substantial reliance on and engagement with recreational snapper grouper fishing in South Florida, since these are most likely the communities that could be affected by the actions proposed in this amendment. These communities would most likely have local economies with some dependence upon recreational fishing and its supporting businesses.

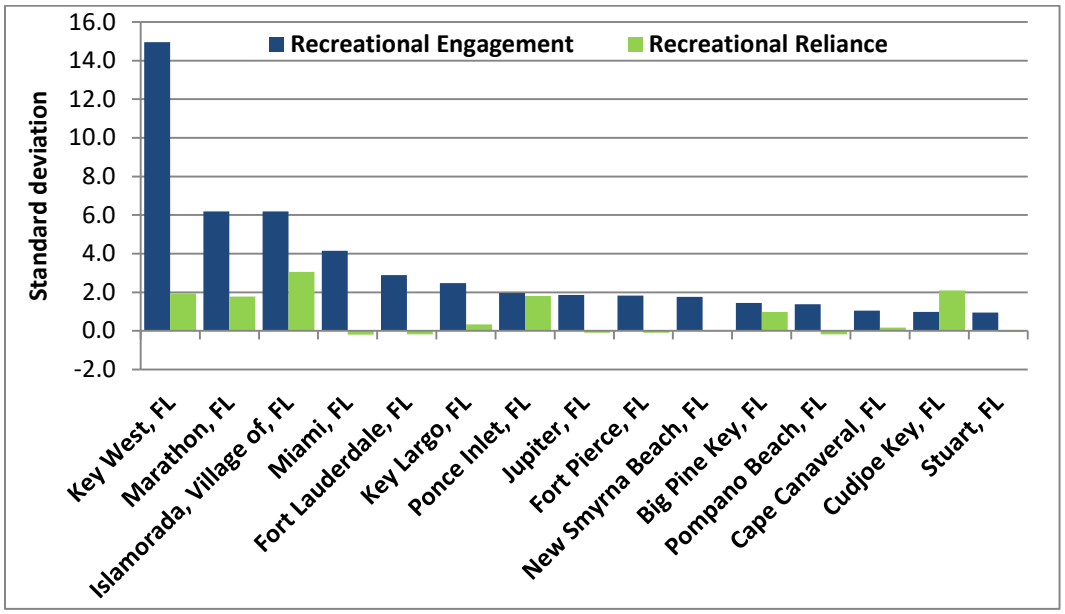


Figure 3.3.2.6. The top South Florida communities for engagement with and reliance on recreational fishing.
Source: SERO 2014.

3.3.3 Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider "the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories…" This executive order is generally referred to as environmental justice (EJ).

Commercial fishermen and coastal communities in the South Atlantic may experience some impacts by the proposed action depending upon the alternatives selected and whether they have negative or positive social effects. However, information on the race and income status for many of the individuals involved in fishing is not available. To evaluate where EJ concerns might exist, a suite of social vulnerability indices have been developed; the three indices are poverty, population composition and personal disruptions. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community's vulnerability. Indicators such as increased poverty rates for different groups, more single female-headed households and households with children under the age of 5, disruptions such as higher separation rates, higher crime rates and unemployment all are signs of populations experiencing vulnerabilities. These vulnerabilities signify that it may be difficult for someone living in these communities to recover from significant social disruption that might stem from a change in their ability to work or maintain a certain income level.

Because many of the communities included in both the commercial and recreational engagement and reliance figures are the same, a select group most common from each region and sector were included in **Figures 3.3.3.1 and 3.3.3.2.**

In **Figure 3.3.3.1** there are very few selected communities in Florida that exceed the thresholds for social vulnerability. Hialeah and Miami are the only two that demonstrate substantial social vulnerabilities with all three indices over 1 standard deviation. St. Augustine and Marathon display high poverty vulnerabilities but low vulnerabilities for others.

Communities outside of Florida (**Figure 3.3.3.2**) also demonstrate little vulnerability as Beaufort, NC is the only community with personal disruption and poverty vulnerabilities over the threshold of 1 standard deviation. Morehead City and Wilmington demonstrates some vulnerability with poverty and personal disruption just above ½ standard deviation.

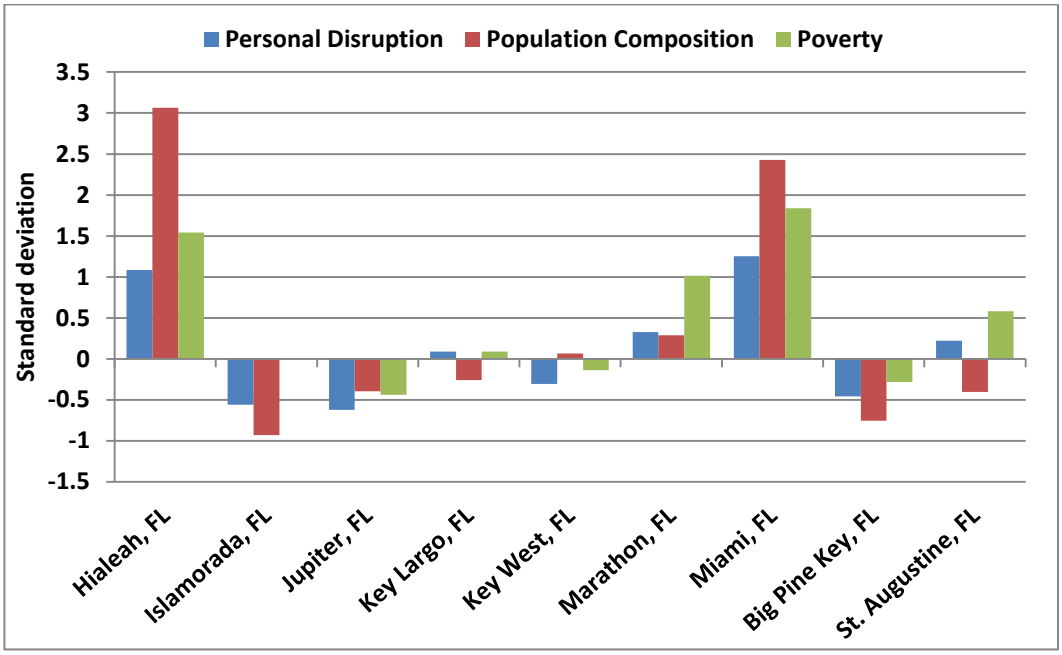


Figure 3.3.3.1 Social vulnerability measures for selected Florida communities.
Source: SERO 2014.

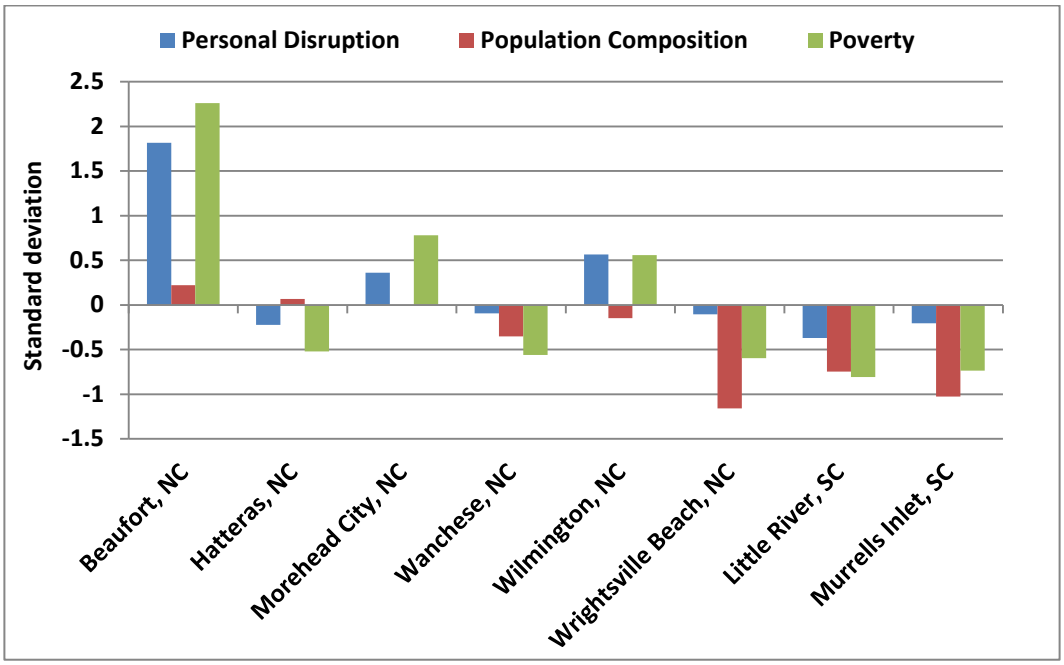


Figure 3.3.3.2 Social vulnerability measures for selected South Carolina and North Carolina communities.
Source: SERO 2014

While some communities expected to be affected by this proposed amendment may have social vulnerabilities that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. It is anticipated that the impacts from the proposed regulations may impact minorities or the poor, but not through discriminatory application of these regulations.

Finally, the general participatory process used in the development of fishery management measures (e.g., scoping meetings, public hearings, and open South Atlantic Council meetings) is expected to provide sufficient opportunity for meaningful involvement by potentially affected individuals to participate in the development process of this amendment and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the amendment.

3.4 Administrative Environment

3.4.1 The Fishery Management Process and Applicable Laws

3.4.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nm from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

Responsibility for federal fishery management decision-making is divided between the U.S. Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for collecting and providing the data necessary for the councils to prepare fishery management plans and for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws. In most cases, the Secretary has delegated this authority to NMFS.

The South Atlantic Council is responsible for conservation and management of fishery resources in federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 mi offshore from the seaward boundary of North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NMFS; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. On the South Atlantic Council, there are two public members from each of the four South Atlantic States. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard, State Department, and Atlantic States Marine Fisheries Commission (ASMFC). The South Atlantic Council has adopted procedures whereby the non-voting members serving on the South Atlantic Council Committees have full voting rights at the Committee level but not at the full South Atlantic Council level. The South Atlantic Council also established two voting seats for the Mid-Atlantic Council on the South Atlantic Mackerel Committee. South Atlantic Council members serve three-year terms and are recommended by state governors and appointed by the Secretary from lists of nominees submitted by state governors. Appointed members may serve a maximum of three consecutive terms.

Public interests also are involved in the fishery management process through participation on Advisory Panels and through council meetings, which, with few exceptions for discussing personnel and legal matters, are open to the public. The South Atlantic Council uses its Scientific and Statistical Committee (SSC) to review the data and science being used in assessments and fishery management plans/amendments. In addition, the regulatory process is in accordance with the Administrative Procedure Act, in the form of "notice and comment" rulemaking.

3.4.1.2 State Fishery Management

The state governments of North Carolina, South Carolina, Georgia, and Florida have the authority to manage fisheries that occur in waters extending three nautical miles from their respective shorelines. North Carolina's marine fisheries are managed by the Marine Fisheries Division of the North Carolina Department of Environment and Natural Resources. The Marine Resources Division of the South Carolina Department of Natural Resources regulates South Carolina's marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Marine Fisheries Division of the Florida Fish and Wildlife Conservation Commission is responsible for managing Florida's marine fisheries. Each state fishery management agency has a designated seat on the South Atlantic Council. The purpose of state representation at the South Atlantic Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters.

The South Atlantic States are also involved through the Atlantic States Marine Fisheries Commission (ASMFC) in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries. It has significant authority, through the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act, to compel adoption of consistent state regulations to conserve coastal species. The ASFMC is also represented at the South Atlantic Council level, but does not have voting authority at the South Atlantic Council level.

NMFS's State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act) programs. Additionally, it works with the ASMFC to develop and implement cooperative State-Federal fisheries regulations.

3.4.1.3 Enforcement

Both the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries (NMFS) Office for Law Enforcement (NOAA/OLE) and the United States Coast Guard (USCG) have the authority and the responsibility to enforce South Atlantic Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

Neither NOAA/OLE nor the USCG can provide a continuous law enforcement presence in all areas due to the limited resources of NOAA/OLE and the priority tasking of the USCG. To supplement at sea and dockside inspections of fishing vessels, NOAA entered into Cooperative Enforcement Agreements with all but one of the states in the Southeast Region (North Carolina), which granted authority to state officers to enforce the laws for which NOAA/OLE has jurisdiction. In recent years, the level of involvement by the states has increased through Joint Enforcement Agreements, whereby states conduct patrols that focus on federal priorities and, in some circumstances, prosecute resultant violators through the state when a state violation has occurred.

The NOAA Office of General Counsel Penalty Policy and Penalty Schedules can be found at www.gc.noaa.gov/enforce-office3.html.

Chapter 4. Environmental Consequences

4.1 Action 1: Specify a single Acceptable Biological Catch (ABC) and Annual Catch Limits (ACLs) for yellowtail snapper in the South Atlantic and Gulf of Mexico.

Alternatives

1. No action.

The total ABC for yellowtail snapper is split between the South Atlantic and Gulf of Mexico regions, with 75% of the ABC allocated to the South Atlantic and 25% of the ABC allocated to the Gulf of Mexico.

South Atlantic: The current acceptable biological catch (ABC) for yellowtail snapper is 3,037,500 pounds whole weight (ww). The current total annual catch limit (ACL) (equal to ABC) is 3,037,500 lbs ww. The current commercial sector allocation for yellowtail snapper is 52.56% (1,596,510 lbs ww) of the total ACL and the current recreational sector allocation for yellowtail snapper is 47.44% (1,440,990 lbs ww) of the total ACL.

Gulf of Mexico: The current ABC for yellowtail snapper is 1,012,500 lbs ww. The current total ACL (11% less than ABC) is 901,125 lbs ww. There are no sector specific allocations for yellowtail snapper in the Gulf of Mexico.

South Atlantic Accountability Measures (AM)

The current commercial AM is an in-season closure if the commercial ACL is met or projected to be met. The commercial ACL is reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The current recreational AM is an in-season closure if the recreational ACL is met or projected to be met. A shortening of the recreational season may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season is not reduced if the Regional Administrator determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be shortened and the recreational ACL reduced in the following fishing year by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

Gulf of Mexico Accountability Measure (AM)

If the sum of the commercial and recreational landings, as estimated by the Science and Research Director, 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, the Assistant Administrator will file a notification with the Office of the Federal Register to close the commercial and recreational sectors for the remainder of that fishing year.

2. Manage yellowtail snapper as a single unit with an overall combined acceptable biological catch and combined total ACL, but manage the ACL under the South Atlantic sector allocations and accountability measures (AMs).

3. Manage yellowtail snapper as a single unit with an overall combined acceptable biological catch and total ACL, but manage the total ACL under the Gulf of Mexico accountability measure.

4.1.1 Biological Effects

Alternative 1 (No Action) would not specify a single ABC or a single total ACL for yellowtail snapper for the combined South Atlantic and Gulf of Mexico regions. The current commercial sector allocation for yellowtail snapper is 52.56% (1,596,510 lbs ww) of the total ACL and the current recreational sector allocation for yellowtail snapper is 47.44% (1,440,990 lbs ww) of the total ACL.

In the Gulf of Mexico, the current ABC for yellowtail snapper is 1,012,500 lbs ww. The current total ACL (11% less than ABC) is 901,125 lbs ww. There are no sector specific ACLs in the Gulf of Mexico.

Alternative 2 would combine the ABC for both the regions, resulting in an ABC for yellowtail snapper equal to 4,050,000 lbs ww. **Alternative 2** would also combine the total ACL for the South Atlantic Region (equal to ABC) and the total ACL Gulf of Mexico (11% less than ABC), resulting in a combined ACL of 3,938,625 lbs ww. The sector allocations for the South Atlantic Region would apply in both the South Atlantic and the Gulf of Mexico. Based on a total ACL of 3,938,625 lbs ww and sector allocations of 47.44% (recreational) and 52.56% (commercial), the recreational ACL would be 1,868,484 lbs ww and the commercial ACL would be 2,070,141 lbs ww. The AMs currently specified for yellowtail snapper in the South Atlantic Region would be used to help prevent the total ACL of 3,938,625 lbs ww is not exceeded, and to take action to prevent overfishing from occurring if there was an overage of the ACL to ensure overfishing does not occur.

Alternative 3 would also specify a single ABC and a single total ACL for both regions similar to **Alternative 2**. However, the current AMs for yellowtail snapper the Gulf of Mexico would be used to ensure the total ACL of 3,938,625 lbs ww is not exceeded, and to take action to prevent overfishing from occurring if there was an overage of the ACL to ensure overfishing does not occur. Under **Alternative 3**, there would be no sector ACLs and the AMs for yellowtail snapper would apply to the total ACL.

From 2005 through 2015, the highest combined landings (3,069,195 lbs ww) by both commercial and recreational sectors in the South Atlantic Region and the Gulf of Mexico was less than the combined total ACL of 3,938,625 lbs ww (**Table 4.1.1.1**). During 2005-2015, commercial and recreational landings in the South Atlantic Region were higher than in the Gulf of Mexico (**Table 4.1.1.1**, **Figure 4.1.1.1**, and **Figure 4.1.1.2**). The commercial sector in both regions harvested more yellowtail snapper compared to the recreational sector during 2005-2015, but this trend was more pronounced in the Gulf of Mexico (**Table 4.1.1.1**, **Figure 4.1.1.1**, and **Figure 4.1.1.2**).

Table 4.1.1.1. Landings (lbs ww) of yellowtail snapper in the South Atlantic Region and Gulf of Mexico during 2005-2015.

Year	Commercial			Recreational			Combined
	Gulf	South Atl.	Total	Gulf	South Atl.	Total	Total
2005	510,437	814,899	1,325,336	31,176	576,247	607,423	1,932,759
2006	542,237	694,958	1,237,195	21,477	560,320	581,797	1,818,992
2007	350,079	628,608	978,687	19,726	786,399	806,125	1,784,812
2008	460,569	910,323	1,370,892	6,056	746,313	752,369	2,123,261
2009	891,925	1,085,281	1,977,206	19,250	348,536	367,786	2,344,992
2010	569,275	1,126,231	1,695,506	8,783	434,259	443,042	2,138,548
2011	769,729	1,125,220	1,894,949	25,560	390,998	416,558	2,311,507
2012	630,984	1,439,586	2,070,570	5,087	493,409	498,496	2,569,066
2013	734,112	1,328,931	2,063,043	6,991	666,026	673,017	2,736,060
2014	798,154	1,245,744	2,043,898	21,536	933,759	955,295	2,999,193
2015	507,398	1,691,807	2,199,205	78,833	791,157	869,990	3,069,195
Average	614,991	1,099,235	1,714,226	22,225	611,584	633,809	2,348,035

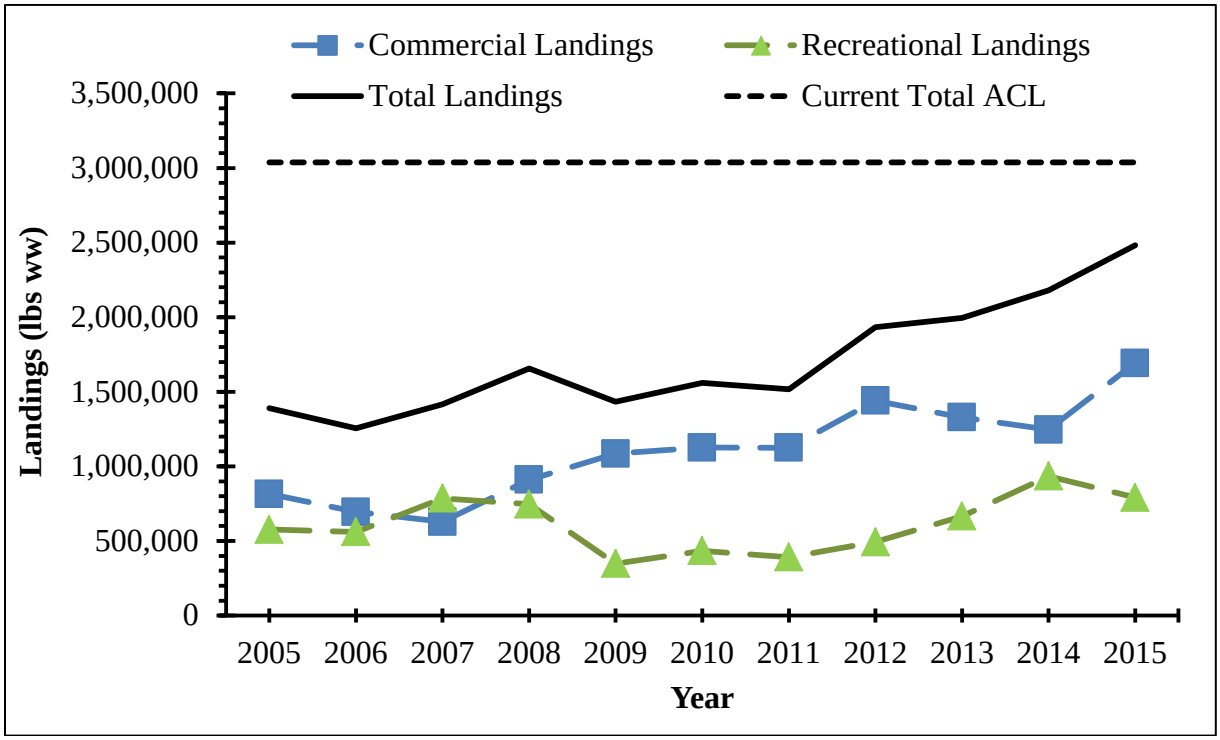


Figure 4.1.1.1. Landings (lbs ww) of yellowtail snapper in the South Atlantic Region.

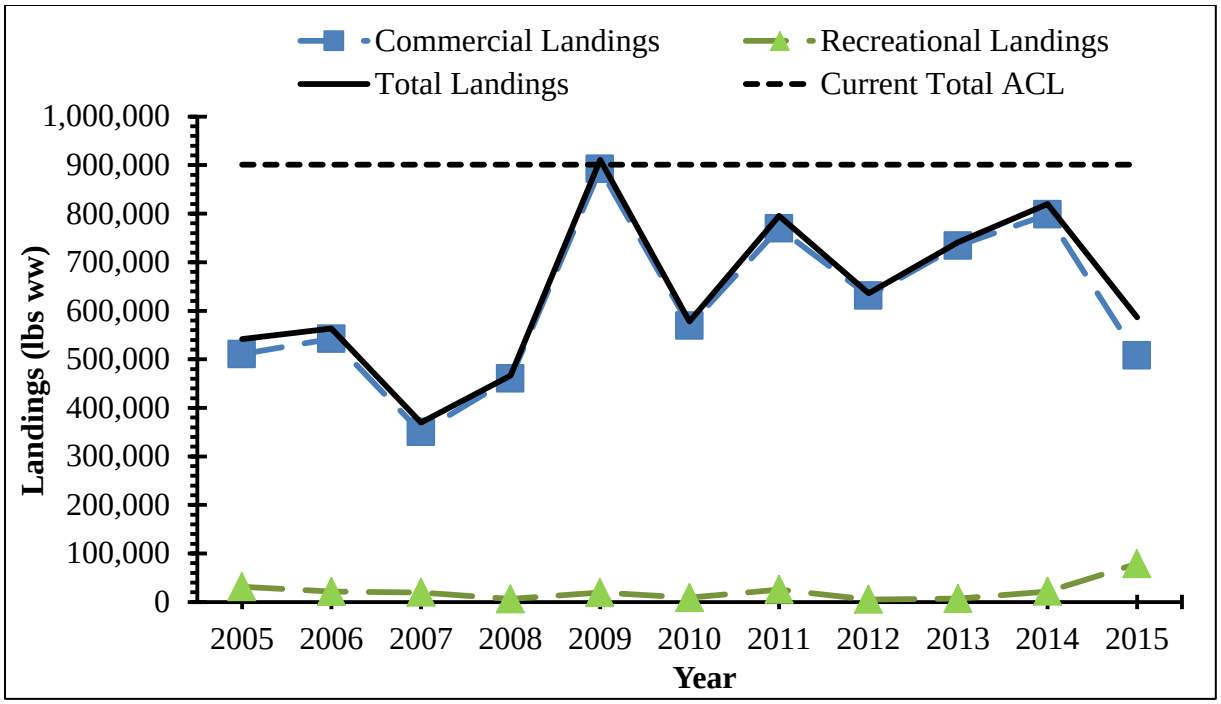


Figure 4.1.1.2. Landings (lbs ww) of yellowtail snapper in the Gulf of Mexico.

Biological effects from the proposed alternatives, including **Alternative 1 (No Action)** are expected to be neutral since ACLs and AMs are in place to ensure overfishing does not occur.

4.1.2 Economic Effects

The alternatives of **Action 1 (No Action)** examine options to a single total ACL and single ABC for yellowtail snapper in the South Atlantic and Gulf of Mexico. Under **Alternative 1 (No Action)**, yellowtail snapper in the Gulf of Mexico would continue to function under a total ACL with no sector allocations, while yellowtail snapper in the South Atlantic would continue to function under a total ACL with separate ACLs for the commercial and recreational sectors. There are no anticipated negative economic effects for either the commercial or recreational sectors for yellowtail snapper in the Gulf of Mexico since the combined sector landings do not reach typically reach the ACL. However, landings for yellowtail snapper in the Gulf of Mexico did exceed the current total ACL (901,125 lbs ww) in 2009, demonstrating the capacity to reach landings levels that would trigger an inseason harvest closure which may incur negative economic effects in the commercial and recreational sectors. Additionally, there are no anticipated negative economic effects for the recreational sector in the South Atlantic, since the sector does not typically reach its ACL. However, there is the demonstrated potential for the commercial sector in the South Atlantic Region to reach its sector ACL, as exhibited in 2015, that would trigger a closure of commercial harvest for yellowtail snapper, thereby prohibiting commercial participants from receiving income from the yellowtail snapper resource during the closure (**Table 4.1.1.1**).

Regulatory Amendment 25 (SAFMC 2016; effective 8/12/16) modified the start date for the yellowtail snapper fishing year (for both commercial and recreational sectors) in the South Atlantic from the calendar year to a start date of August 1. This action was taken to prevent early closures, such as occurred in 2015 for the commercial sector, and to ensure harvest would remain open during the winter months when yellowtail snapper obtains a higher price per pound commercially, and during peak tourist season in south Florida where the majority of yellowtail snapper harvest takes place. In addition, changing the fishing year is expected to impart indirect biological benefits to the stock in the South Atlantic because it ensures that, in the event of an early closure due to landings reaching the ACL, such a closure would occur during summer months, when yellowtail snapper are spawning.

In **Alternative 2**, the ACL and ABC for yellowtail snapper would be merged into a single total ACL and ABC for the South Atlantic and Gulf of Mexico. In addition, there would be separate AMs and sector ACLs for the commercial and recreational sectors for the South Atlantic and Gulf of Mexico combined, as is currently in place in the South Atlantic region. The economic effects of **Alternative 2** would be highly dependent on the management alternative that is chosen in **Action 2,** which sets sector allocations and the potential for quota sharing between the two sectors. For the specific anticipated economic effects of each alternative in **Action 2**, see **Chapter 4.2.2.** Assuming no change is made to the current allocation and AMs for yellowtail snapper in the South Atlantic, the new commercial sector ACL would be 2,070,141 lbs ww for the commercial sector and 1,868,484 lbs ww for the recreational sector. These sector ACLs would apply to combined yellowtail snapper landings from both the Gulf of Mexico and the South Atlantic. Combined landings from the recreational sector in the two regions have not come close to meeting this sector ACL, therefore, no negative economic effects are anticipated. The combined yellowtail snapper landings for the commercial sector have exceeded or come close to exceeding the 2.07 million lbs ww level since 2012, therefore, it can be expected that harvest closures may occur for commercial fishermen in the Gulf of Mexico and South Atlantic regions each year if recent commercial landings are indicative of future commercial landings (**Table 4.1.1.1**). This may impose negative economic effects on commercial participants and related businesses such as seafood dealers and distributors should the harvest closure be for an extended period of time and a species of similar profitability not be readily available to offset reduced commercial landings of yellowtail snapper.

Under **Alternative 3**, a single ACL and a single ABC would be established for yellowtail snapper in both the South Atlantic and Gulf of Mexico, and current Gulf of Mexico AMs would apply if the total ACL was met or exceeded. Based upon historic landings from 2005-2015 (**Table 4.4.1.1**), a closure is not expected under the current combined ACLs, as combined total yellowtail snapper landings from the South Atlantic and Gulf of Mexico have not exceeded the combined ACL of 3,938,625 lbs ww in the 2005-2015 timeframe. **Alternative 3** would allow some flexibility in managing the ACL in years where one sector experiences exceptionally high landings without necessarily triggering a closure or other AMs. However, **Alternative 3** creates the potential for increased landings in one sector to trigger the closure of yellowtail snapper harvest for both sectors, leading to inequitable utilization of the resource between the recreational and commercial sectors with respect to the manner that yellowtail snapper is currently exploited. Any such closure or large scale change in how the yellowtail snapper resource is harvested would lead to potential negative effects in one or both sectors.

4.1.3 Social Effects

Yellowtail snapper is an important commercial and recreational species in Florida, particularly in South Florida and the Florida Keys (see **Section 3.3.2**). The effects on fishermen and coastal communities due to changes in the annual catch limit and associated accountability measures for yellowtail snapper will be associated with any increases or decreases in access to yellowtail, and the benefits of consistent regulations in the Florida Keys.

The top five communities with the highest levels of commercial landings of yellowtail snapper include the Florida communities of Key West, Miami, Marathon, Fort Lauderdale and Key Largo (**Figure 3.3.2.5**). These areas could be most affected by changes for yellowtail snapper commercial harvest, particularly in Keys communities in which commercial fishing is an important social and economic component. In general, an increase in access to the yellowtail quota for commercial fishermen and reduced likelihood of triggering an accountability measure that would restrict access to yellowtail will be beneficial to commercial fishermen and associated businesses.

The top Florida communities for recreational fishing (**Figure 3.3.2.6**) also include communities in south Florida and the Florida Keys. Although some areas have high levels of recreational engagement, such as Fort Lauderdale and Miami, it is not likely that changes to yellowtail snapper management would have community-level effects. However, for some Keys communities with high numbers of private anglers and for-hire businesses (such as Islamorada, Key Largo and Key West), changes that could affect recreational fishing opportunities for yellowtail may result in effects at the community level effects as well as effects on individuals and businesses. In general, changes to yellowtail management that affect the current or potential future fishing opportunities may have negative effects on private anglers and for-hire businesses. However, recreational landings in recent years have been lower than the South Atlantic recreational ACL and the Gulf quota (**Table 4.1.1.**1). Additionally, recreational fishing in the Florida Keys is closely tied to tourism, and access to yellowtail snapper during the high tourist season (winter) will be important to maintain social and economic benefits of yellowtail harvest for the Keys communities and fishermen.

Because there would be no changes to the yellowtail management under **Alternative 1 (No Action)**, there would be little or no expected effects on recreational fishermen and for-hire businesses targeting yellowtail snapper, as recreational landings have been lower than the South Atlantic recreational ACL and the Gulf quota. Commercial landings for the South Atlantic have been close to or over the South Atlantic commercial ACL. Because it is likely that the same commercial fishermen harvest yellowtail on both the Gulf and South Atlantic sides, the status quo under **Alternative 1 (No Action)** could continue to constrain commercial harvest by not increasing the available quota, as proposed under **Alternatives 2** and **3**.

Under **Alternative 2**, there would be some increase in available quota for commercial harvest, although commercial landings may be close to or over the proposed commercial ACL (assuming the current sector allocations) (**Figure 4.1.3.1**). Unless the commercial allocation is increased in **Action 2**, the benefits to the commercial sector would be minimal and similar to **Alternative 1 (No Action**). Because recreational landings would likely be below the proposed recreational ACL in **Alternative 2** and assuming current sector allocations (**Figure 4.1.3.2**), the

effects on recreational fishermen and for-hire businesses that target yellowtail would be expected to be minimal and similar to **Alternative 1 (No Action)**. However, if the recreational quota is reduced in **Action 2** and recreational effort increases in later years, there may be some negative effects on future recreational fishing opportunities under **Alternative 2**.

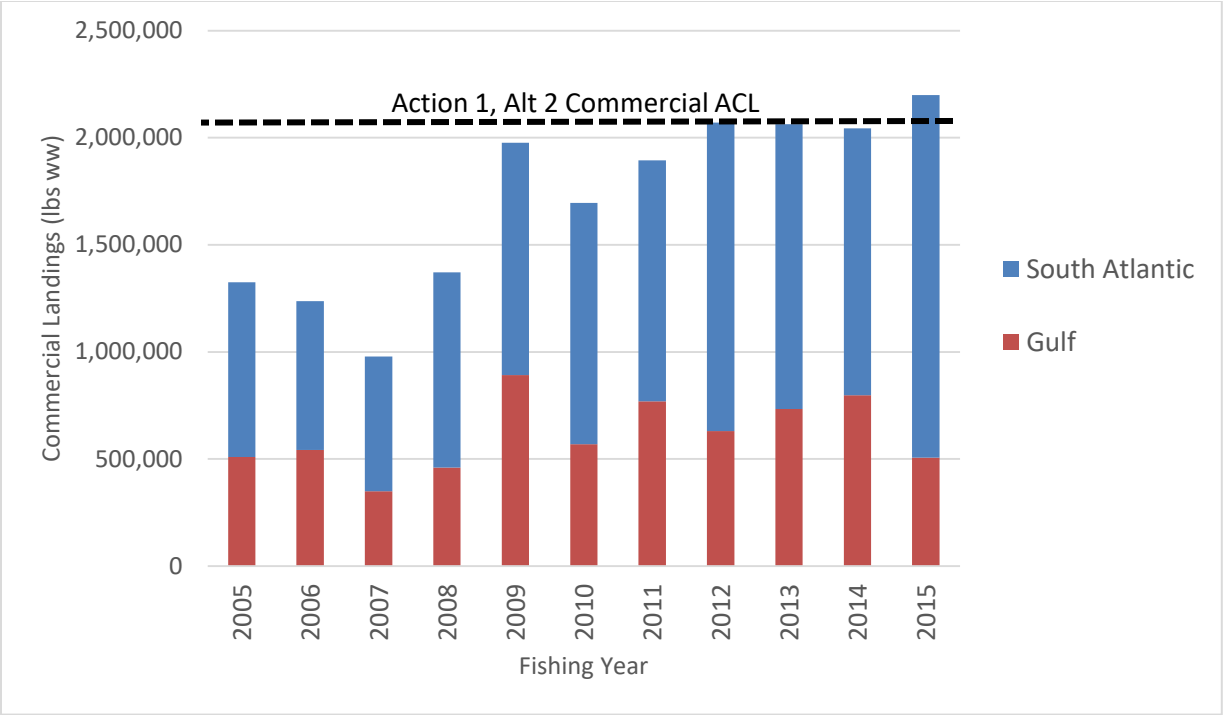


Figure 4.1.3.1. Commercial landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed commercial ACL in **Alternative 2** (2,070,141 lbs ww; shown as the dashed line), assuming current South Atlantic commercial allocation of 52.56% of the total ACL.

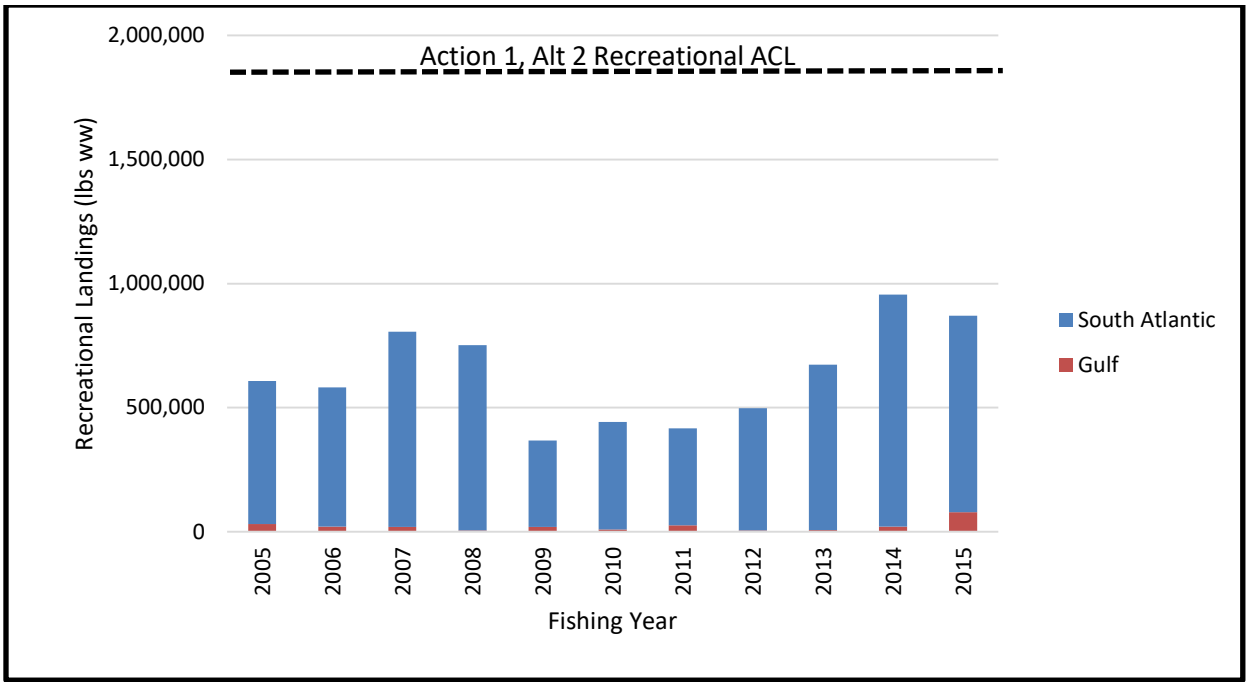


Figure 4.1.3.2. Recreational landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed recreational ACL in **Alternative 2** (1.868.484 lbs ww; shown as the dashed line), assuming current South Atlantic recreational allocation of 47.44% of the total ACL.

The separate accountability measures for commercial and recreational harvest under a combined ACL in **Alternative 2** may also affect commercial and recreational fishermen targeting yellowtail snapper. For commercial fishermen, it is possible that the commercial ACL will be met and commercial harvest in both the Gulf and South Atlantic regions will close before the end of the fishing year. Under **Alternative 1 (No Action)**, commercial fishermen may still be able to target yellowtail in Gulf waters if the South Atlantic is closed, because the Gulf stock ACL has not been met under recent fishing conditions.

However, separate ACLs and accountability measures for each sector under **Alternative 2** may be beneficial to recreational fishermen, because recreational fishing opportunities will not be affected even if commercial harvest is closed.

One ACL for recreational and commercial harvest in both the Gulf and South Atlantic regions under **Alternative 3** may the most beneficial to commercial fishermen, because it will result in the highest available quota. Combined landings have not reached this quota in recent years (**Figure 4.1.3.3**). However, **Alternative 3** may result in negative effects on future recreational fishing opportunities if commercial harvest reduces the amount of quota needed by the recreational sector. The recreational sector may also be negatively affected by the combined accountability measure in **Alternative 3** that closes all harvest, but is primarily due to commercial landings.

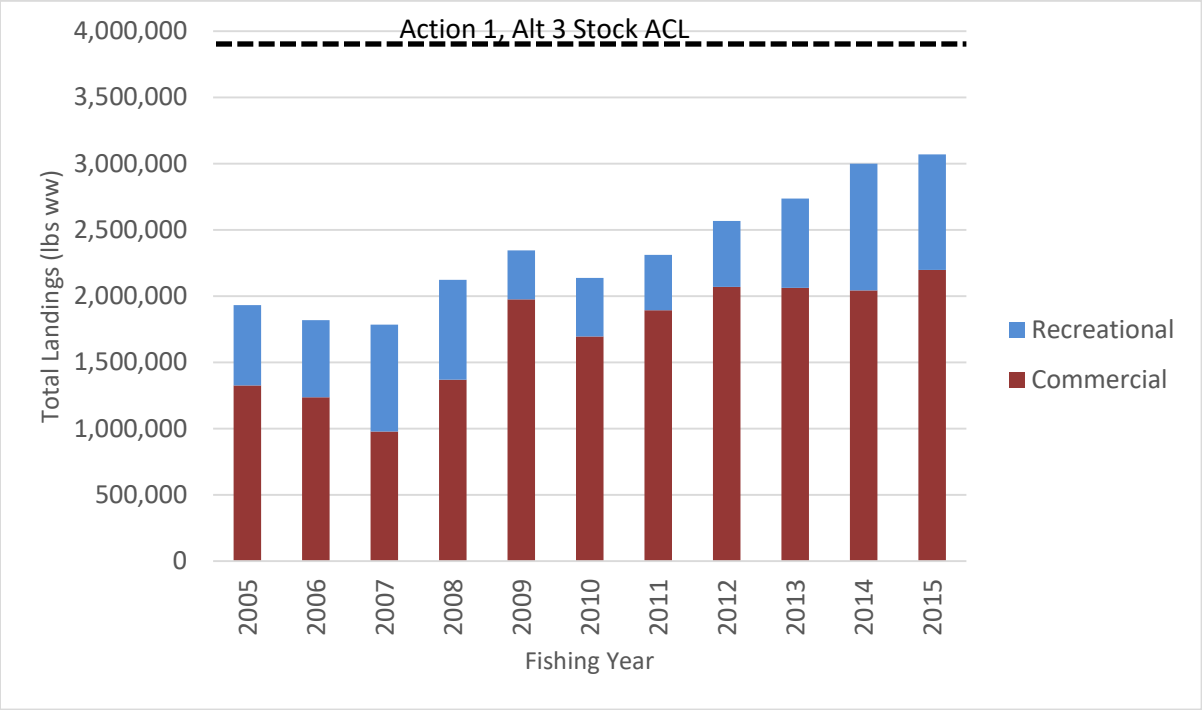


Figure 4.1.3.3. Total landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed stock ACL in **Alternative 3** (dashed line).

4.1.4 Administrative Effects

4.2 Action 2: Revise sector allocations and accountability measures for South Atlantic yellowtail snapper.

Alternatives

1. No Action. The current recreational sector allocation for yellowtail snapper is 47.44% (1,440,990 lbs ww) of the total Annual Catch Limit (ACL). The current commercial sector allocation for yellowtail snapper is 52.56% (1,596,510 lbs ww) of the total ACL. Note: Total ACL=ABC=OY.

The current commercial accountability measure (AM) is an in-season closure if the commercial ACL is met or projected to be met. The commercial ACL is reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The current recreational AM is an in-season closure if the recreational ACL is met or projected to be met. A shortening of the recreational season may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season is not reduced if the Regional Administrator determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be shortened and the recreational ACL reduced in the following fishing year by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

2. Maintain current sector ACLs, but revise AM to not close either sector until total ACL is met.

3. Change sector ACLs.

Sub-alternative 3a. Allocate 42% (1,275,750 lbs ww) of the total ACL to the recreational sector. Allocate 58% (1,761,750 lbs ww) of the total ACL to the commercial sector. (Based on average landings from 2005-2014)

Sub-alternative 3b. Allocate 40% (1,215,000 lbs ww) of the total ACL to the recreational sector. Allocate 60% (1,822,500 lbs ww) of the total ACL to the commercial sector. (Based on 2013 landings).

Sub-alternative 3c. Allocate 30% (911,250 lbs ww) of the total ACL to the recreational sector. Allocate 70% (2,126,250 lbs ww) of the total ACL to the commercial sector. (Based on 2012 landings)

Sub-alternative 3d. Allocate 28% (850,500 lbs ww) of the total ACL to the recreational sector. Allocate 72% (2,187,000 lbs ww) of the total ACL to the commercial sector. (Based on 2011 landings)

4. Set aside a portion of the total ACL that can be used by either sector as a common pool allocation.

Sub-alternative 4a: 1% (30,375 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (3,007,125 lbs ww) is split between the recreational sector (1,426,580 lbs ww) and the commercial sector (1,580,545 lbs ww) according to the current allocation.

Sub-alternative 4b: 2.5% (75,938 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,961,562 lbs ww) is split between the recreational sector (1,404,965 lbs ww) and the commercial sector (1,556,597 lbs ww) according to the current allocation.

Sub-alternative 4c: 5% (151,875 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,885,625 lbs ww) is split between the recreational sector (1,368,941 lbs ww) and the commercial sector (1,516,685 lbs ww) according to the current allocation.

Sub-alternative 4d: 10% (303,750 lbs ww) of the total ACL becomes a common pool category. The remaining ACL (2,733,750 lbs ww) is split between the recreational sector (1,296,891 lbs ww) and the commercial sector (1,436,859 lbs ww) according to the current allocation.

5. At the beginning of the fishing year, conditionally transfer a certain percentage (Sub-alternatives 5a-5d) of the ACL from a sector that is not landing its ACL to the other sector that is landing all or almost all of its ACL in the next fishing year, if the minimum landings threshold is not met for the donating sector (Sub-alternatives 5e-5g). If the receiving sector does not land at least 90% of its unadjusted ACL, this transfer will not occur. The highest landings from the donating sector based on available finalized data from the five years prior will be used as criteria to determine if allocation transfers will occur. Note: Total ACL=ABC=OY

Conditional ACL Transfer (MUST CHOOSE ONE):
Sub-alternative 5a: Conditionally transfer 5% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5b: Conditionally transfer 10% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5c: Conditionally transfer 15% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5d: Conditionally transfer 20% of the unadjusted ACL of one sector to the other sector.

Donating sector's ACL Minimum Threshold (MUST CHOOSE ONE), if the donating sector's landings are:
Sub-alternative 5e: less than 50% of its unadjusted ACL.
Sub-alternative 5f: less than 65% of its unadjusted ACL.
Sub-alternative 5g: less than 75% of its unadjusted ACL.

4.2.1 Biological Effects

Sector ACLs for yellowtail snapper in the South Atlantic were established by the final rule for the Comprehensive ACL Amendment (SAFMC 2011) on April 16, 2012 (52 FR 15916), at 52.56% (1,142,589 lbs ww) for the commercial sector, and 47.44% (1,031,286 lbs ww) for the recreational sector. The final rule for Regulatory Amendment 15 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 15; SAFMC 2013) maintained the percentage of the sector allocations, but increased the sector ACLs for yellowtail snapper on September 12, 2013 (78 FR 49183), to the current commercial ACL at 1,596,510 lbs ww, and the recreational ACL at 1,440,990 lbs ww. The current AMs for yellowtail snapper in the South Atlantic were implemented by Amendment 34 to the Snapper Grouper FMP (part of the Generic Allocation and Dolphin Allocation Amendment; SAFMC 2015).

Average landings for the commercial and recreational sectors during 2005-2015 were 1,099,235 lbs ww and 611,584 lbs ww, respectively (**Table 4.4.1.2; Figure 4.4.1.1**).

Table 4.4.1.2. Landings (lbs ww) of yellowtail snapper during 2005-2015 in the South Atlantic Region. The current total ACL for yellowtail snapper is 3,037,500 lbs ww, commercial ACL is 1,596,510 lbs ww, and the recreational ACL is 1,440,990 lbs ww.

Year	Commercial Landings (lbs ww)	Recreational Landings (lbs ww)	Total Landings (lbs ww)
2005	814,899	576,247	1,391,146
2006	694,958	560,320	1,255,278
2007	628,608	786,399	1,415,007
2008	910,323	746,313	1,656,636
2009	1,085,281	348,536	1,433,817
2010	1,126,231	434,259	1,560,490
2011	1,125,220	390,998	1,516,218
2012	1,439,586	493,409	1,932,995

2013	1,328,931	666,026	1,994,957
2014	1,245,744	933,759	2,179,503
2015	1,691,807	791,157	2,482,964
Average	1,099,235	611,584	1,710,819

Source: Commercial data from ACL_FILES_12152016.xlsx
recreational data comes from MRFSSassess_rec81_16wv4_10Nov16_w14and15LACreel
Data was post-stratified so Monroe County landings were given to the South Atlantic

During 2012-2015, the commercial sector harvested an average of 98% of the commercial ACL (**Table 4.4.1.3**). The commercial ACL was exceeded in 2012 by 26%, but landings data were not available in time to close the commercial sector that year (**Table 4.4.1.3**). In 2015, commercial landings were projected to exceed the commercial ACL of 1,596,510 lbs ww, and the commercial sector was shut down on October 31, 2015. Updated commercial landings data show that 1,691,807 lbs ww were landed in 2015, exceeding the commercial ACL by 6% (**Table 4.4.1.3**). The recreational sector harvested 53% of the recreational ACL, on average, during 2012-2015 (**Table 4.4.1.3**).

Alternative 1 (No Action) would retain the current sector allocations and AMs for yellowtail snapper. As mentioned previously, effective August 12, 2016 the final rule for Regulatory Amendment 25 to the Snapper Grouper FMP (SAFMC 2016) changed the start of the fishing year for both sectors of yellowtail snapper from January 1 to August 1, each year (81 FR 45245). Therefore, if the commercial sector were to meet the current commercial ACL in 2017, it would close during the spawning season for yellowtail snapper, which would yield biological benefits to the stock. Furthermore, commercial fishers have commented that yellowtail snapper are smaller during the summer and they would prefer the species to stay open during the winter months.

Table 4.4.1.3. Yellowtail snapper landings (lbs ww) by sector and percentage (%) of sector ACL harvested each year, during 2012-2015. The current total ACL for yellowtail snapper is 3,037,500 lbs ww, commercial ACL is 1,596,510 lbs ww, and the recreational ACL is 1,440,990 lbs ww.

Year	Commercial landings (lbs ww)	Commercial ACL (lbs ww)	% of Commercial ACL Harvested	Recreational Landings (lbs ww)	Recreational ACL (lbs ww)	% of Recreational ACL Harvested
2012	1,439,586	1,142,589	126	493,409	1,031,286	48
2013	1,328,931	1,596,510	83	666,026	1,440,990	46
2014	1,245,744	1,596,510	78	933,759	1,440,990	65
2015	1,691,807	1,596,510	106	791,157	1,440,990	55
Average	1,426,517	1,483,030	98	721,088	1,338,564	53

Note: There were no ACLs or TAC for yellowtail snapper prior to 2012.
Commercial data from ACL_FILES_12152016.xlsx
recreational data comes from MRFSSassess_rec81_16wv4_10Nov16_w14and15LACreel
Data were post-stratified so Monroe County landings assigned to the South Atlantic

None of the action alternatives would be expected to have negative biological effects for yellowtail snapper because ACLs and AMs are in effect to prevent overfishing. However, the biological effects of **Alternative 1 (No Action)** would be expected to be more beneficial than the action alternatives because the action alternatives could result in a greater amount of harvest of yellowtail snapper than **Alternative 1 (No Action)**.

Alternative 2 would maintain the current sector ACLs (**Alternative 1, No Action**), but revise the AMs to not close either sector until the total ACL of is 3,037,500 lbs ww is met. As shown in **Tables 4.4.1.2** and **4.4.1.3**, neither sector would be expected to meet their respective ACL under **Alternative 2**. Positive biological benefits could be expected because discards would be expected to decrease due to a lengthening of the fishing season under this alternative. However, the increase in harvest would be expected to decrease biological benefits relative to **Alternative 1 (No Action)**.

Alternative 3 and its **Sub-alternatives 3a-3d** would create a change in the sector allocations for yellowtail snapper based on average landings using certain years as shown in **Table 4.4.1.4**. The current commercial sector allocation of 52.56% would increase to a range of 58%-72%, and the current recreational sector allocation of 47.44% would decrease to range of 42%-28% (**Sub-alternatives 3a-3d**) (**Table 4.4.1.4**). During 2005-2015, the highest commercial landings were 1,691,807 lbs ww (in 2015), and the highest recreational landings were 933,759 lbs ww (in 2014) (**Table 4.4.1.2**). Therefore, the commercial sector would not be expected to exceed the highest commercial landings as specified in **Sub-alternative 3a-3d** and would also be under the current commercial ACL of 1,596,510 lbs ww. The recreational sector would exceed the highest recreational landings under **Sub-alternatives 3c** and **3d**, but not under **Sub-alternatives 3a** and **3b**. Furthermore, all the recreational ACLs under **Sub-alternatives 3a-3d** would still be under the current recreational ACL of 1,440,990 lbs ww. Biological effects under **Alternative 3** and its **Sub-alternatives 3a-3d** would be similar since the current sector ACLs under **Alternative 1 (No Action)** have not been exceeded.

Table 4.4.1.4. Commercial and recreational ACLs under **Sub-alternatives 3a-3d** and the difference from current sector ACLs for yellowtail snapper. The current total ACL for yellowtail snapper is 3,037,500 lbs ww, commercial ACL is 1,596,510 lbs ww, and the recreational ACL is 1,440,990 lbs ww. Note: values will change due to updated landings.

Sub-alternative (Average landings based on these years)	Commercial ACL (lbs ww) / Percentage (%) of Total ACL	Recreational ACL (lbs ww) / Percentage (%) of Total ACL	Difference in commercial ACL (lbs ww)	Difference in recreational ACL (lbs ww)
Sub-alternative 3a (2005-2014)	1,761,750 lbs ww/ 58%	1,275,750 lbs ww/ 42%	+ 165,240 lbs ww	- 165,240 lbs ww
Sub-alternative 3b (2013)	1,822,500 lbs ww/ 60%	1,215,000 lbs ww/ 40%	+ 225,990 lbs ww	- 225,990 lbs ww
Sub-alternative 3c (2012)	2,126,250 lbs ww/ 70%	911,250 lbs ww/ 30%	+ 529,740 lbs ww	- 529,740 lbs ww

Sub-alternative (Average landings based on these years)	Commercial ACL (lbs ww) / Percentage (%) of Total ACL	Recreational ACL (lbs ww) / Percentage (%) of Total ACL	Difference in commercial ACL (lbs ww)	Difference in recreational ACL (lbs ww)
Sub-alternative 3d (2011)	2,187,000 lbs ww/ 72%	850,500 lbs ww/ 28%	+ 590,490 lbs ww	- 590,490 lbs ww

Alternative 4 and its **Sub-alternatives 4a-4d** would set aside a portion (1% - 10%) of the total ACL (= ABC = OY) that could be used by either sector as a common pool allocation. The current allocations (52.56% commercial and 47.44% recreational) would be applied to the remaining total ACL resulting in the sector ACLs as shown in **Table 4.4.1.5**.

Table 4.4.1.5. Commercial and Recreational ACLs (lbs ww) under Sub-alternatives 4a-4d. The current total ACL for yellowtail snapper is 3,037,500 lbs ww, commercial ACL is 1,596,510 lbs ww, and the recreational ACL is 1,440,990 lbs ww.

Sub-alternative	Common pool ACL (lbs ww) / Percentage (%) of Total ACL	Remaining Total ACL (lbs ww)	Commercial ACL (lbs ww)	Recreational ACL (lbs ww)	Commercial ACL + common pool ACL (lbs ww)	Recreational ACL + common pool ACL (lbs ww)
Sub-alternative 4a	30,375/ 1%	3,007,125	1,580,545	1,426,580	1,610,920	1,456,955
Sub-alternative 4b	75,938 / 2.5%	2,961,562 l	1,556,597	1,404,965	1,632,535	1,480,903
Sub-alternative 4c	151,875/ 5%	2,885,625	1,516,685	1,368,941	1,668,560	1,520,816
Sub-alternative 4d	303,750/ 10%	2,733,750	1,436,859	1,296,891	1,740,609	1,600,641

During 2005-2015, the highest commercial landings was 1,691,807 lbs ww (in 2015), and the highest recreational landings was 933,759 lbs ww (in 2014) (Table 4.4.1.2). The current commercial ACL is 1,596,510 lbs ww, and the recreational ACL is 1,440,990 lbs ww. Both sectors would have their ACLs lowered (by 1%-10%) initially to contribute to the common pool. However, as shown in **Table 4.4.1.5**, removing up to 10% of both sector's ACLs would still not result in the current sector ACLs being met. Furthermore, all the sector ACLs under **Sub-alternatives 4a-4d** with the inclusion of the common pool ACL, if utilized, would provide additional pounds of yellowtail snapper (1%-10%, respectively) (**Table 4.4.1.5**). Therefore, biological effects of **Sub-alternatives 4a-4d** would be neutral compared with each other and with **Alternative 1 (No Action)**.

Alternative 5 would conditionally transfer 1%-10% (**Sub-alternatives 5a-5d**) of the ACL from a sector that is not landing its ACL to the other sector that is landing all or almost all of its ACL in the next fishing year. The condition is that the minimum landings threshold of 50%-75% of the donating sector's ACL must not be met (**Sub-alternatives 5e-5f**). Furthermore, if the receiving sector does not land at least 90% of its unadjusted ACL, this transfer would not

occur. Logistically, the sub-alternatives under **Alternative 5** would be very difficult to monitor and administer due to the delay in the availability of landings and time required to implement the changes. It could be two years before the sector that needs the extra ACL is able to utilize it. Therefore, there is an inherent risk of exceeding the sector ACLs, which could result in negative biological effects. Therefore, **Alternative 1 (No Action)** would be expected to have greater negative biological effects than **Alternative 5** and **Sub-alternatives 5a-5f**.

4.2.2 Economic Effects

Realized and potential changes in allocations can alter fishing behavior and the economic benefits received in a fishery. Changes in allocation can also determine whether or not closures occur, which impose costs in a fishery. **Alternative 1 (No Action)** keeps in place the current sector allocations for yellowtail snapper. Under the current total ACL, the recreational sector is not expected to reach its ACL based on recent historic landings. In most years, the commercial sector does not reach the current sector ACL, with the exception of 2015, when the commercial sector ACL was exceeded, resulting in a commercial harvest closure for two months. The commercial sector did not reach the sector ACL for yellowtail snapper in 2016; however, the fishing year changed to start August 1st instead of January 1st, so it is unclear if the commercial fishery will continue to meet the commercial sector ACL. If the average commercial yellowtail snapper landings over the previous five years (2011through 2015) of 1.37 million lbs ww are used to project likely landings in the fishery, the commercial sector would continue to underharvest its ACL by approximately 230,000 lbs ww annually. If commercial landings from 2015 are indicative of the current and future, then the commercial sector ACL would be met and a harvest closure would be put in place towards the end of the fishing year. Since the commercial sector has landed a relatively large portion of its ACL in recent years, the potential does exist that the commercial sector could harvest its entire ACL, triggering an in season closure. A closure in the commercial sector would impose loss of potential revenue when yellowtail snapper incidentally caught are discarded. The recreational sector is not likely to be affected by **Alternative 1 (No Action)**, as the sector has not come close to landing the entire sector allocation.

In **Alternative 2,** neither sector would be closed until the total ACL is met. Based upon historic landings form 2005-2015 (**Table 4.4.1.1**), a closure is not expected to occur for either sector under the current ACL, as total yellowtail snapper landings in the South Atlantic have not reached more than 82 percent of the current ACL. It would allow some flexibility in managing the ACL in years where one sector experiences exceptionally high landings without necessarily triggering a closure or other accountability measures. However, **Alternative 2** does create the potential for increased landings in one sector to trigger the closure of yellowtail snapper harvest for both sectors, leading to inequitable utilization of the resource between the recreational and commercial sectors with respect to the manner that yellowtail snapper is currently exploited. Any such closure or large scale change in how the yellowtail snapper resource is harvested would lead to potential negative effects in one or both sectors.

Alternative 3 modifies the sector ACLs to allocate more of the total yellowtail snapper ACL to the commercial sector and less to the recreational sector. In most years, the commercial sector is not anticipated to realize any economic effects at the current ACL level, as the sector has only met its current ACL one time from 2005 through 2015 (**Table 4.4.2.1**). In years of

exceptionally high commercial landings, such as those that occurred in 2015, an increased allocation to the commercial sector would have delayed or prevented a closure. There would be potential positive economic effects for the commercial sector, incurred through increased revenue from yellowtail snapper landings or a longer fishing season, should the total ACL decrease or landings in the commercial sector increase appreciably. The extent to which the potential positive economic effects would be accrued would depend on the additional amount allocated to the commercial sector (**Sub-alternatives 3a** through **3d**), with **Sub-alternative 3d** having the largest potential positive economic effect for the commercial sector followed by **Sub-alternative 3c**, **3b**, and **3a**. The same ranking would apply for the possible negative economic effects for the recreational sector, as the potential consumer surplus in the recreational yellowtail snapper portion of the snapper grouper fishery would decrease with a smaller portion of the ACL. Assuming resource availability is not appreciably changed due to a shift in allocation, realized negative economic effects for the recreational sector are not likely to occur under any of the sub-alternatives based on average landings observed in recent years (**Table 4.4.2.2**), however, it is noted that 2014 recreational landings were above the recreational ACLs specified in **Sub-alternative 3c** and **3d**. Should landings reach this level again under either of these two scenarios, an in-season closure would occur in the recreational sector, creating notable negative economic effects for the sector.

Alternative 4 and its **Sub-alternatives 4a** through **4d** would reduce the sector ACLs for both the recreational and commercial sectors, but allow access to a common pool allocation when needed to help prevent a yellowtail snapper harvest closure from occurring. The size of the common pool ACL increases progressively from **Sub-alternative 4a** to **4d**, with the sector ACLs decreasing accordingly. Under the largest decrease in sector ACLs seen in **Sub-alternative 4d**, the revised commercial and recreation sector ACLs would still remain above observed historic yellowtail snapper landings from 2005-2015, with the exception of the commercial sector in 2012 and 2015, therefore, there are no realized economic effects anticipated to occur in most years since the common pool ACL would not be used (**Table 4.4.2.1**). There are potential economic benefits that may occur with the addition of the common pool ACL. Each sector has the potential to increase its landings beyond the levels specified in current sector ACLs, presumably increasing benefits for that sector and decreasing the possibility of a harvest closure for yellowtail snapper, as long as one sector continues to under harvest its revised sector ACL.

The conditional transfer of ACL, as outlined in **Alternative 5** does allow for potential positive economic effects to occur in the yellowtail snapper portion of the snapper grouper fishery when one sector is consistently under-harvesting its sector ACL, while the other sector is harvesting all or almost all of its sector ACL. Based on the observed landings for yellowtail snapper from 2011 through 2015, a transfer of ACL could occur from the recreational sector to the commercial sector under **Sub-alternative 5g**, since the recreational landings have been below the threshold for five years in a row, however, no transfer would occur under **Sub-alternative 5e or 5f** (**Table 4.4.2.2**). The extent to which the commercial sector would experience economic benefits would be dependent on the amount of ACL that is transferred (**Sub-alternatives 5a** through **5d**) and the observed commercial landings that were to occur.

The potential economic effects of **Alternative 2** through **Alternative 5** in comparison to **Alternative 1 (No Action)** would be very dependent on the sub-alternatives that are chosen. Based on the potential to trigger a yellowtail snapper closure, **Alternative 1 (No Action)** has the greatest potential for negative economic effects, followed by **Alternative 3**, **Alternative 2**, **Alternative 5,** and **Alternative 4**.

4.2.3 Social Effects

Chapter 3.3.2 and **Section 4.1.3** includes detailed information about fishermen and communities associated with yellowtail snapper harvest, which primarily is in south Florida and the Florida Keys. The following analysis of potential social effects assumes that the Council has selected Alternative 1 or Alternative 2 as the preferred alternative in Action 1. A discussion for each of these alternatives from Action 1 is included in separate sections below.

If Alternative 1 is selected as preferred in Action 1 (separate ACLs for South Atlantic and Gulf yellowtail)

Modifications in sector allocations of the South Atlantic yellowtail snapper ACL could result in some changes in fishing behavior and impacts to the social environment. Although sector allocations are currently in place for the South Atlantic under **Alternative 1 (No Action)**, changes in sector allocations could increase perceptions of scarcity and change the fishing behavior of those within a particular sector. It is expected that **Alternative 1 (No Action)** would have few direct social effects because the current South Atlantic allocations already apply to fishermen targeting yellowtail snapper. However, if one sector has not or does not reach its ACL under the current allocations, the resource may be underutilized and available quota would not be available to the other sector.

Assuming Alternative 1 in Action 1, under **Alternative 1 (No Action)** and **Alternative 2** would have similar social effects in regards to access to the yellowtail resource because the South Atlantic ACLs would not change. Benefits to the commercial sector would only come from the reduced likelihood of triggering an in-season closure through the modified accountability measure in **Alternative 2**. However, closing both sectors when the total ACL is met under **Alternative 2** could have negative effects on recreational fishermen if all harvest is prohibited due to commercial harvest reaching the commercial ACL. Overall, **Alternative 2** would indirectly allow commercial fishermen to access unused recreational ACL (see **Table 4.2.1.3**).

Changing the allocations permanently (**Alternative 3**) may help to reach the total South Atlantic ACL and increase access to the South Atlantic yellowtail snapper resource for the commercial sector. Compared to South Atlantic commercial yellowtail landings in recent years (**Figure 4.2.3.1**), all proposed commercial ACLs in **Sub-alternatives 3a-3d** would be higher than commercial landings in recent years. However, if a similar trend continues, it is likely that commercial landings will reach the proposed commercial ACLs in **Sub-alternatives 3a** and **3b**. The benefits to the commercial sector through increased access to the yellowtail resource would be greatest under **Sub-alternative 3d**, followed by **Sub-alternative 3c**, **Sub-alternative 3b**, and then **Sub-alternative 3a.**

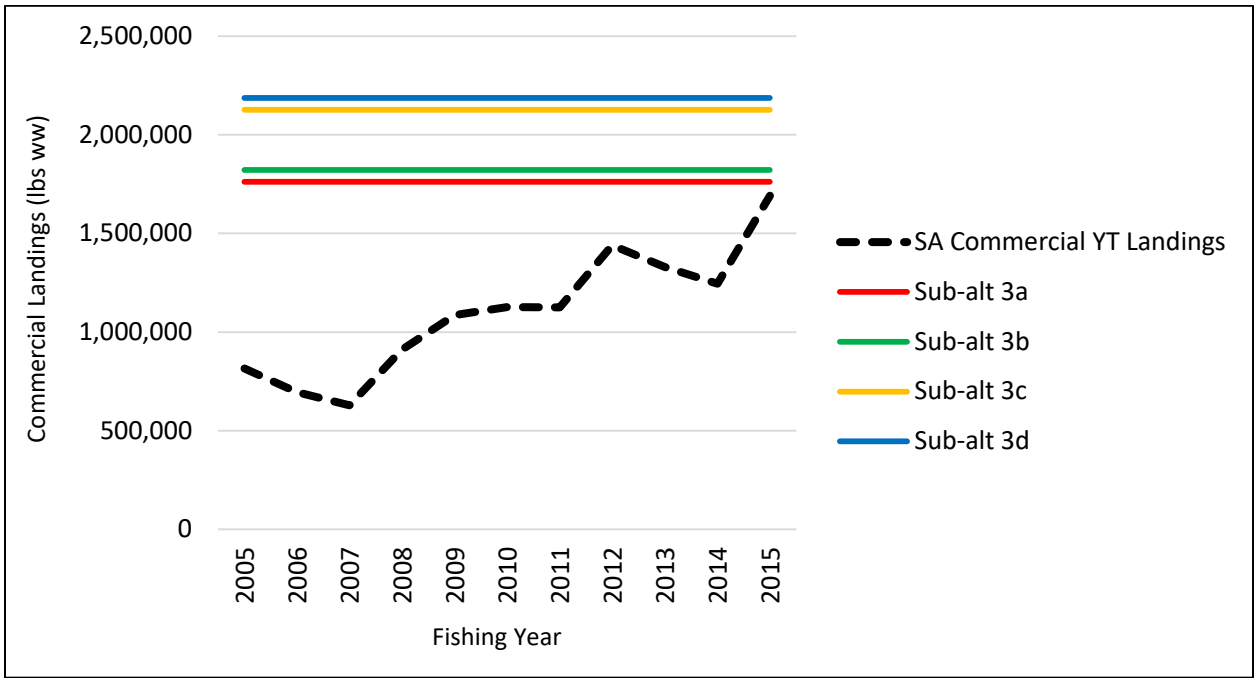


Figure 4.2.3.1. Commercial landings of yellowtail snapper in the South Atlantic, compared to the proposed South Atlantic commercial ACLs in **Sub-alternatives 3a-3d**. This graph assumes Alternative 1 in Action 1. The fishing year is January-December for 2005-2015.

If recreational landings continue as they have in recent years (**Figure 4.2.3.2**), the effects on participants in the recreational sector under **Sub-alternatives 3a** and **3b** would likely be minimal or none. It is possible that if there is a year with high landings, **Sub-alternatives 3c** and **3d** could result in the recreational AM being triggered and negative effects on recreational fishing opportunities.

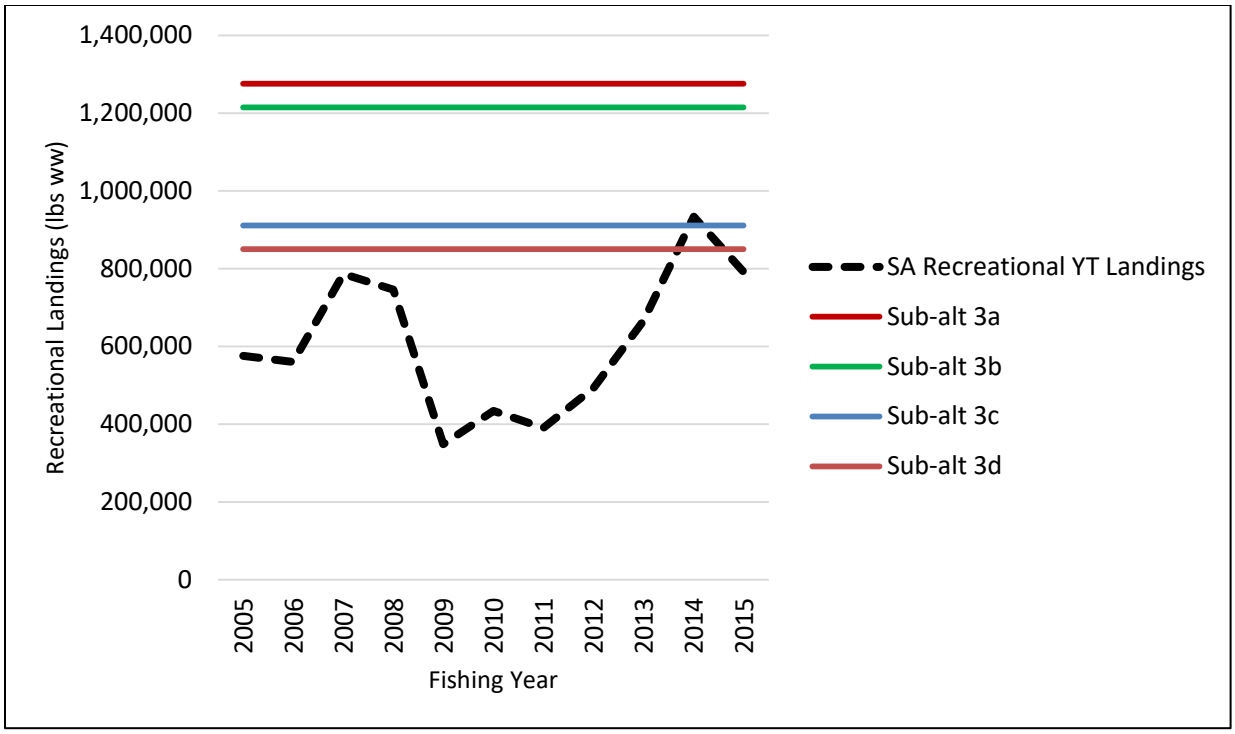


Figure 4.2.3.2. Recreational landings of yellowtail snapper in the South Atlantic, compared to the proposed South Atlantic recreational ACLs in **Sub-alternatives 3a-3d**. This graph assumes Alternative 1 in Action 1. The fishing year is January-December for 2005-2015.

Creating a portion of the total South Atlantic ACL to be common pool (**Alternative 4**) could be beneficial in allowing both sectors to access additional quota when needed, but also may create derby conditions if both sectors are reaching their respective ACLs. The effects of **Sub-alternatives 4a-4d** on each sector depends on the likelihood of needing to access the common pool quota and if the total accessible quota is higher than landings under current conditions.

Participants in the commercial sector than the recreational sector would benefit more from access to a common pool quota. Because a larger proportion of the total ACL designated as common pool quota would be more beneficial to commercial fishermen harvesting yellowtail, it can be assumed that **Sub-alternative 4d** would be most beneficial to the commercial sector, followed by **Sub-alternative 4c, Sub-alternative 4b**, and then **Sub-alternative 4a**. However, if commercial landings are similar or higher than landings in recent years, it is possible that the common pool quota under **Alternative 4** would not mitigate any negative effects on the commercial fishermen due to triggering an in-season AM (**Figure 4.2.3.3**).

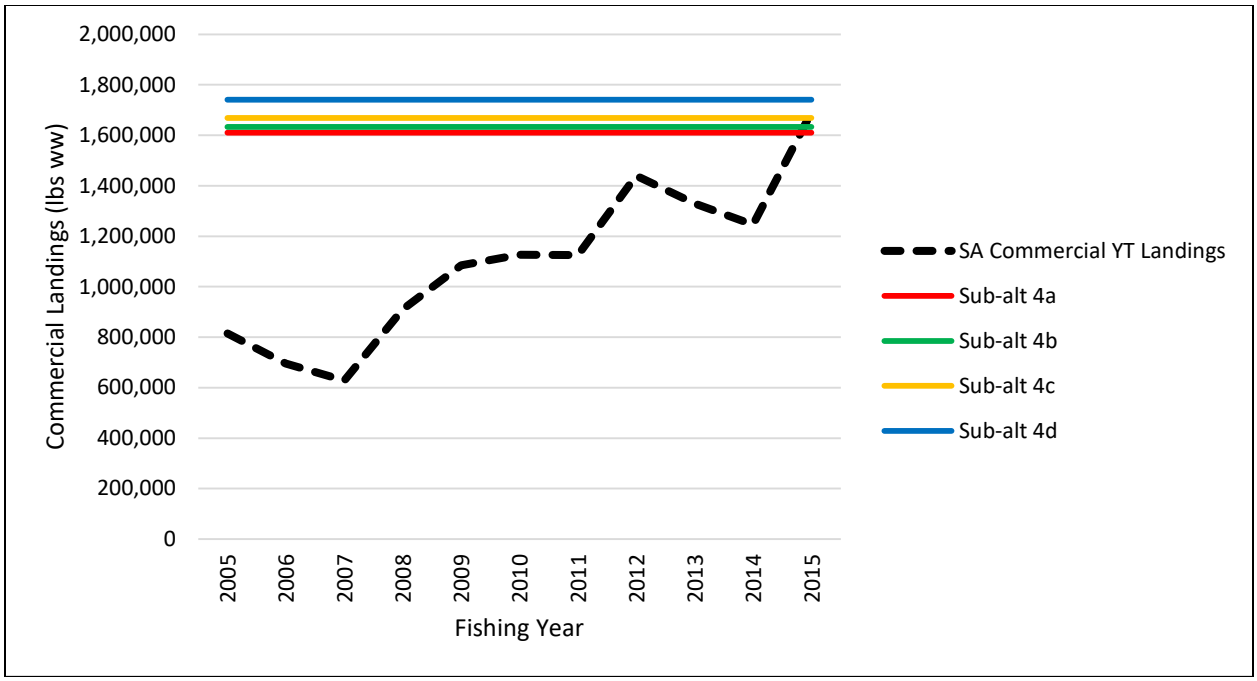


Figure 4.2.3.3. Commercial landings of yellowtail snapper in the South Atlantic compared to the proposed accessible quota for commercial harvest (South Atlantic commercial ACL + common pool quota) in **Sub-alternatives 4a-4d**. This graph assumes Alternative 1 in Action 1. The fishing year is January-December for 2005-2015.

Because South Atlantic recreational landings have not reached the South Atlantic recreational ACL in recent years (**Figure 4.2.3.4**), the effects of **Sub-alternatives 4a-4d** on participants in the recreational sector would be expected to be minimal or none. However, if recreational effort increased in the future but commercial landings stayed at the same level, the loss of the portion of the ACL designated for recreational harvest could reduce access to the yellowtail resource by recreational fishermen.

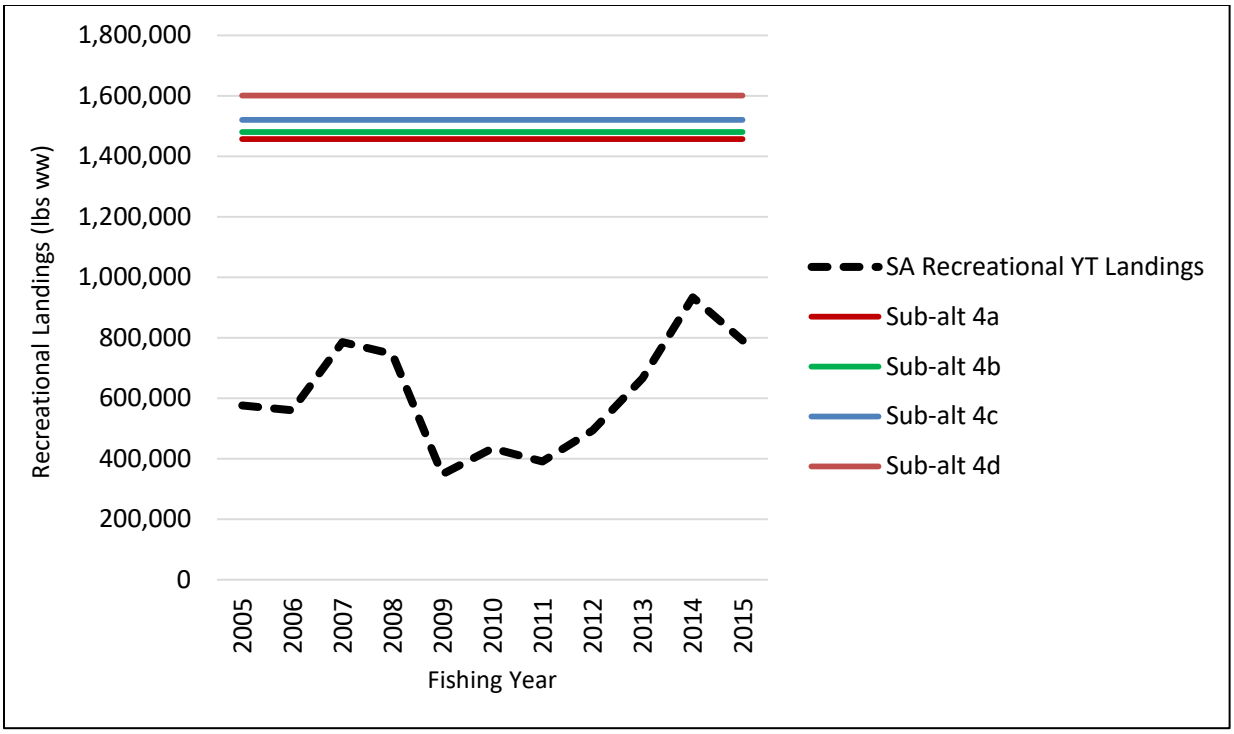


Figure 4.2.3.4. Recreational landings of yellowtail snapper in the South Atlantic compared to the proposed accessible quota for recreational harvest (South Atlantic recreational ACL + common pool quota) in **Sub-alternatives 4a-4d**. This graph assumes Alternative 1 in Action 1. The fishing year is January-December for 2005-2015.

Alternative 5 could provide a flexible and adaptive system to allow each sector more or less access to the total South Atlantic ACL each year. Although there may be some years when a transfer ends up negatively affecting the 'donating' sector, the flexible mechanisms would allow the allocations to return to the previous allocations at the beginning of the next year. Because it is expected that transfers will benefit the commercial sector and have little effect on the recreational sector under current fishery conditions (**Table 4.2.1.2**), **Sub-alternative 5d** would be the most beneficial to the commercial sector, followed by **Sub-alternative 5c**, **Sub-alternative 5b**, and then **Sub-alternative 5a.** If recreational landings are similar to landings in recent years, the effects of **Sub-alternatives 5a-5d** are expected to be minimal or none for participants in the recreational sector. The higher threshold to trigger the transfer in **Sub-alternative 5g**, followed by **Sub-alternative 5f**, and then **Sub-alternative 5e** would be most beneficial to the 'donating' sector by allowing that sector to have the most opportunity to reach its ACL before a conditional transfer would occur.

If Alternative 2 is selected as preferred in Action 1 (combined ACL with South Atlantic allocations and AMs)

Modifications in sector allocations of the South Atlantic yellowtail snapper ACL could result in some changes in fishing behavior and impacts to the social environment. Although sector allocations are currently in place for the South Atlantic under **Alternative 1 (No Action)**, changes in or establishment of (as the case for Gulf yellowtail) sector allocations could increase

perceptions of scarcity and change the fishing behavior of those within a particular sector. However, it is expected that **Alternative 1 (No Action)** would have few direct social effects because the current South Atlantic allocations already apply to fishermen targeting yellowtail snapper, as most of these fishermen likely harvest yellowtail snapper on both the Gulf and South Atlantic sides in the Florida Keys. Additionally, if one sector has not or does not reach its ACL under the current allocations, the resource may be underutilized and available quota would not be available to the other sector.

Assuming Alternative 2 in Action 1, under **Alternative 1 (No Action)** and **Alternative 2** there would be some increase in available quota for commercial harvest, although commercial landings may be close to or over the proposed commercial ACL (see **Figure 4.1.3.1**). With the current South Atlantic sector allocations applied to the yellowtail ACL, the benefits to the commercial sector would only come from the reduced likelihood of triggering an in-season closure through the modified accountability measure.

Because recreational landings would likely be below the proposed recreational ACL in **Alternative 1 (No Action)** and **Alternative 2** (and assuming Alternative 2 in Action 1) (see **Figure 4.1.3.2**), the effects on recreational fishermen and for-hire businesses that target yellowtail would be expected to be minimal. However, closing both sectors when the total ACL is met under **Alternative 2** could have negative effects on recreational fishermen if all harvest is prohibited due to commercial harvest reaching the commercial ACL. **Alternative 2** would indirectly allow commercial fishermen to access unused recreational ACL (see **Table 4.2.1.3**).

Changing the allocations permanently (**Alternative 3**) may help to reach the total ACL and increase access to the yellowtail snapper resource for the commercial sector. Compared to South Atlantic and Gulf commercial yellowtail landings in recent years (**Figure 4.2.3.5**), all proposed commercial ACLs in **Sub-alternatives 3a-3d** would be higher than commercial landings in recent years. However, if a similar landings trend continues, it is likely that commercial landings will reach the proposed commercial ACLs in **Sub-alternatives 3a** and **3b**. The benefits to the commercial sector through increased access to the yellowtail resource would be greatest under **Sub-alternative 3d**, followed by **Sub-alternative 3c**, **Sub-alternative 3b**, and then **Sub-alternative 3a.**

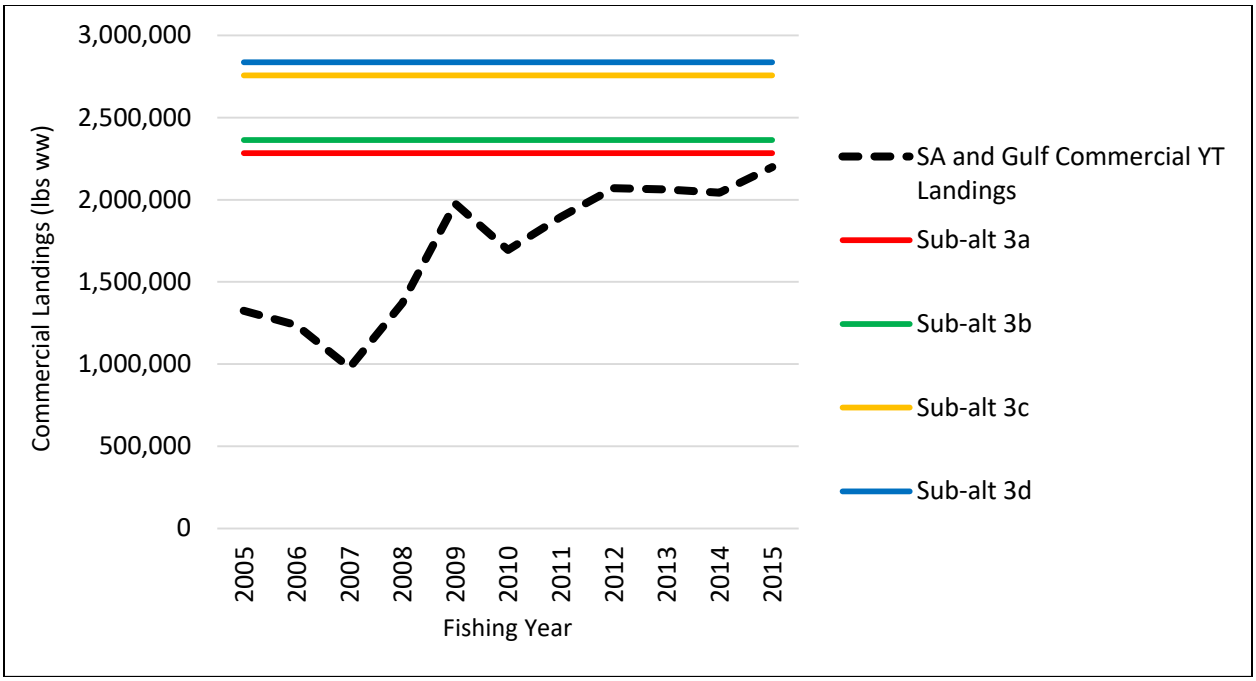


Figure 4.2.3.5. Commercial landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed commercial ACLs in **Sub-alternatives 3a-3d**. This graph assumes Alternative 2 in Action 1. The fishing year is January-December for 2005-2015.

If recreational landings continue as they have in recent years (**Figure 4.2.3.6**), the effects on participants in the recreational sector under **Sub-alternatives 3a** and **3b** would likely be minimal or none. It is possible that if there is a year with high landings or growth in the recreational fishery, **Sub-alternatives 3c** and **3d** could result in the recreational AM being triggered and negative effects on recreational fishing opportunities.

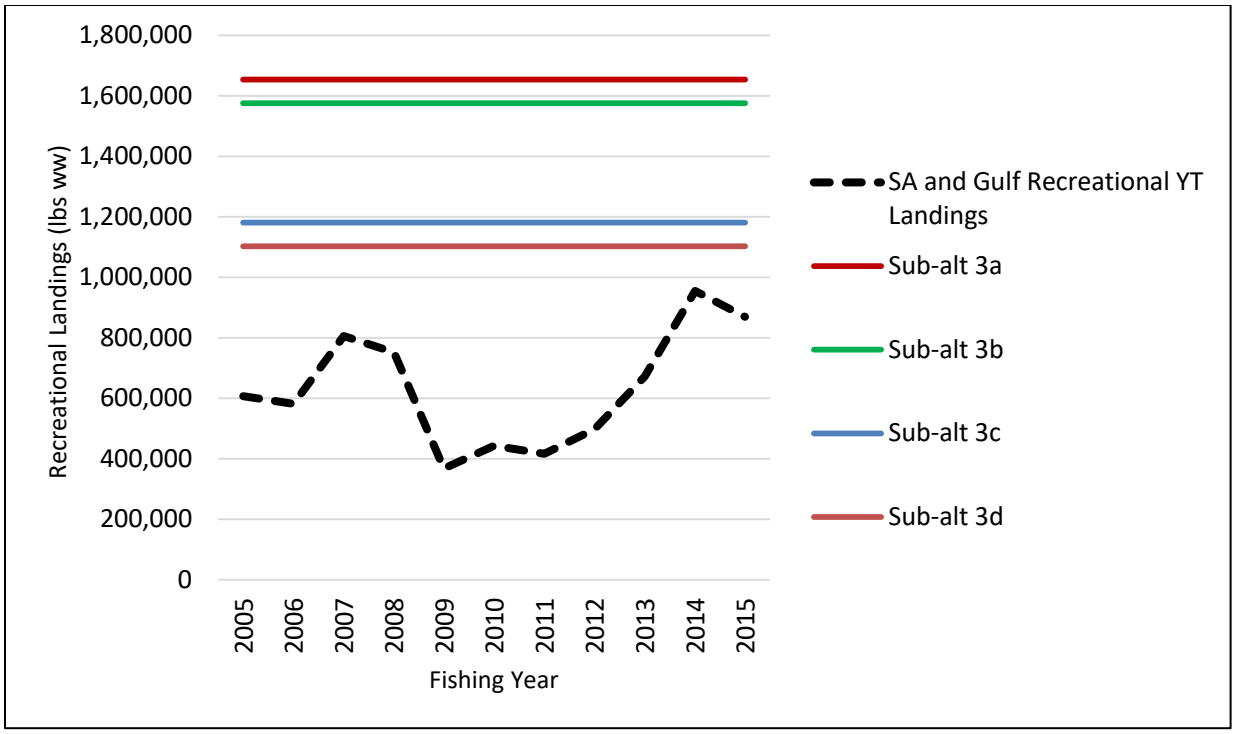


Figure 4.2.3.6. Recreational landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed recreational ACLs in **Sub-alternatives 3a-3d**. This graph assumes Alternative 2 in Action 1. The fishing year is January-December for 2005-2015.

Access to a common pool quota would likely benefit commercial fishermen more than it would benefit recreational fishermen. Because a larger proportion of the total ACL designated as common pool quota would be more beneficial to commercial fishermen harvesting yellowtail, it can be assumed that **Sub-alternative 4d** would be most beneficial to the commercial sector, followed by **Sub-alternative 4c, Sub-alternative 4b**, and then **Sub-alternative 4a**. However, if commercial landings are similar or higher than landings in recent years, it is possible that the common pool quota under **Alternative 4** would not mitigate any negative effects on the commercial fishermen due to triggering an in-season AM (**Figure 4.2.3.7**).

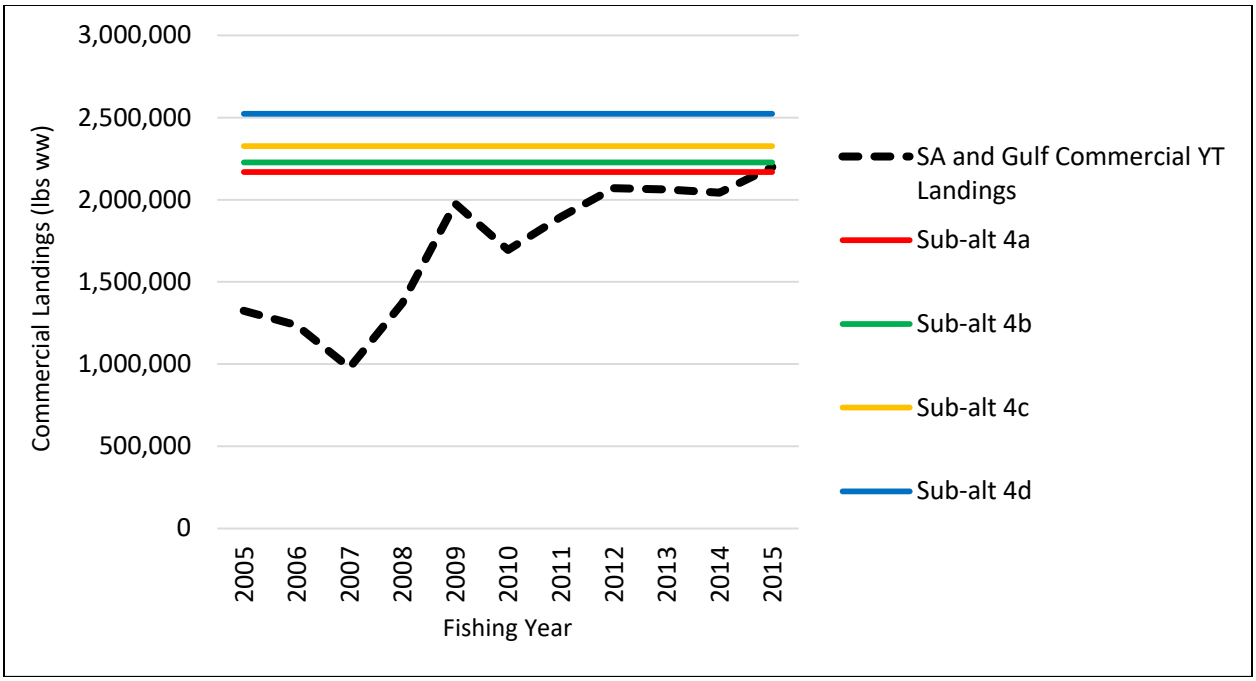


Figure 4.2.3.7. Commercial landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed accessible quota for commercial harvest (commercial ACL + common pool quota) in **Sub-alternatives 4a-4d**. This graph assumes Alternative 2 in Action 1. The fishing year is January-December for 2005-2015.

Because recreational landings have not reached the recreational ACL in recent years (**Figure 4.2.3.8**), the effects of **Sub-alternatives 4a-4d** on participants in the recreational sector would be expected to be minimal or none. However, if recreational effort increased in the future but commercial landings stayed at the same level, the loss of the portion of the ACL designated for recreational harvest could reduce access to the yellowtail resource by recreational fishermen.

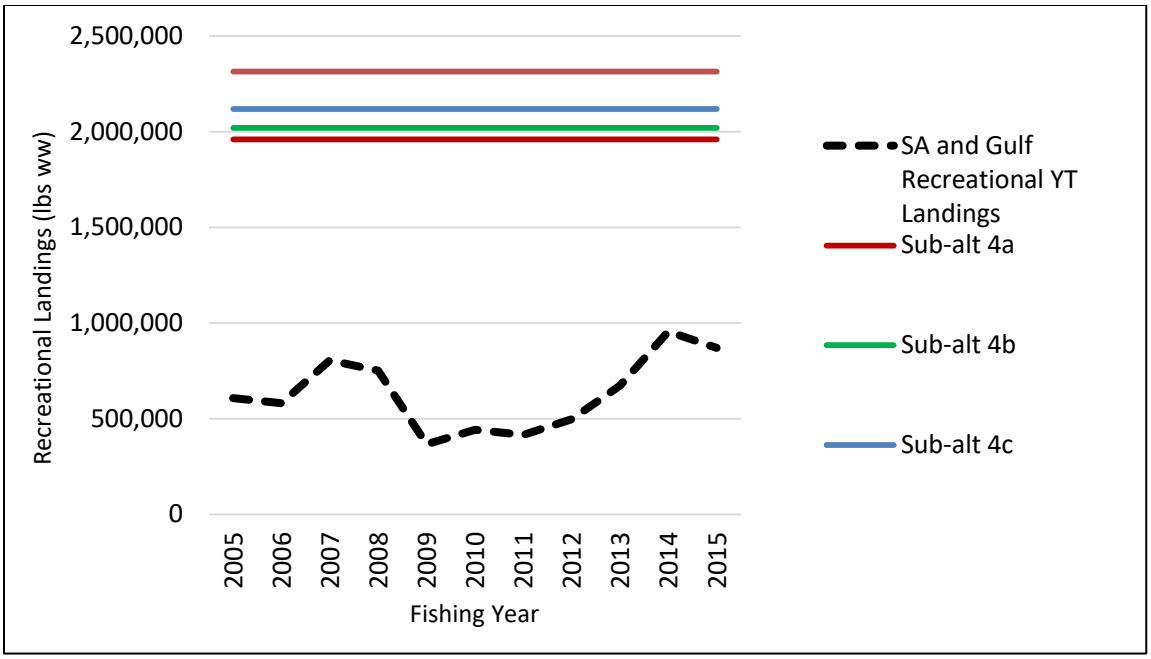


Figure 4.2.3.8. Recreational landings of yellowtail snapper in the South Atlantic and Gulf, compared to the proposed accessible quota for recreational harvest (recreational ACL + common pool quota) in **Sub-alternatives 4a-4d**. This graph assumes Alternative 2 in Action 1. The fishing year is January-December for 2005-2015.

The social effects of **Alternative 5** under Action 1/Alternative 2 would be the same as described in the previous section (assuming Action 1/Alternative 1).

4.2.4 Administrative Effects

Sector ACLs and AMs are already in place, and therefore, **Alternatives 1 (No Action), 2,** and **3** would have the least negative administrative effects followed by **Alternatives 4**, and **5** (and their respective sub-alternatives). **Alternative 4** and **Sub-alternatives 4a-4d** would add to the administrative burden in terms of monitoring the ACLs, educating the public, and enforcing the new ACLs. **Alternative 5** and **Sub-alternatives 5a-5g** would also add to the administrative burden, and could have up to a two-year delay before a sector needing a transfer of ACLs could actually receive the reli

On July 27, 2016, NMFS released a fisheries allocation review policy (http://www.fisheries.noaa.gov/op/pds/documents/01/01-119.pdf; NMFSSPD 01-119; Appendix X), outlining the fisheries allocation review process (**Figure 4.3.1**). The policy includes the Council Coordination Committee's guidance on when sector allocation decisions for a species need to be made, and what triggers are applicable for each of the Council's fishery management plans (FMP; Procedural Directive 01-119-01, Appendix X). The policy also includes NMFS's guidance on what factors need to be considered when making sector allocation decisions (Procedural Directive 01-119-02, Appendix X). NMFS and the South Atlantic Council have three years (July 2019), or as soon as practicable, to determine whether or not trigger mechanisms have been established for FMPs that contain a species sector allocation.

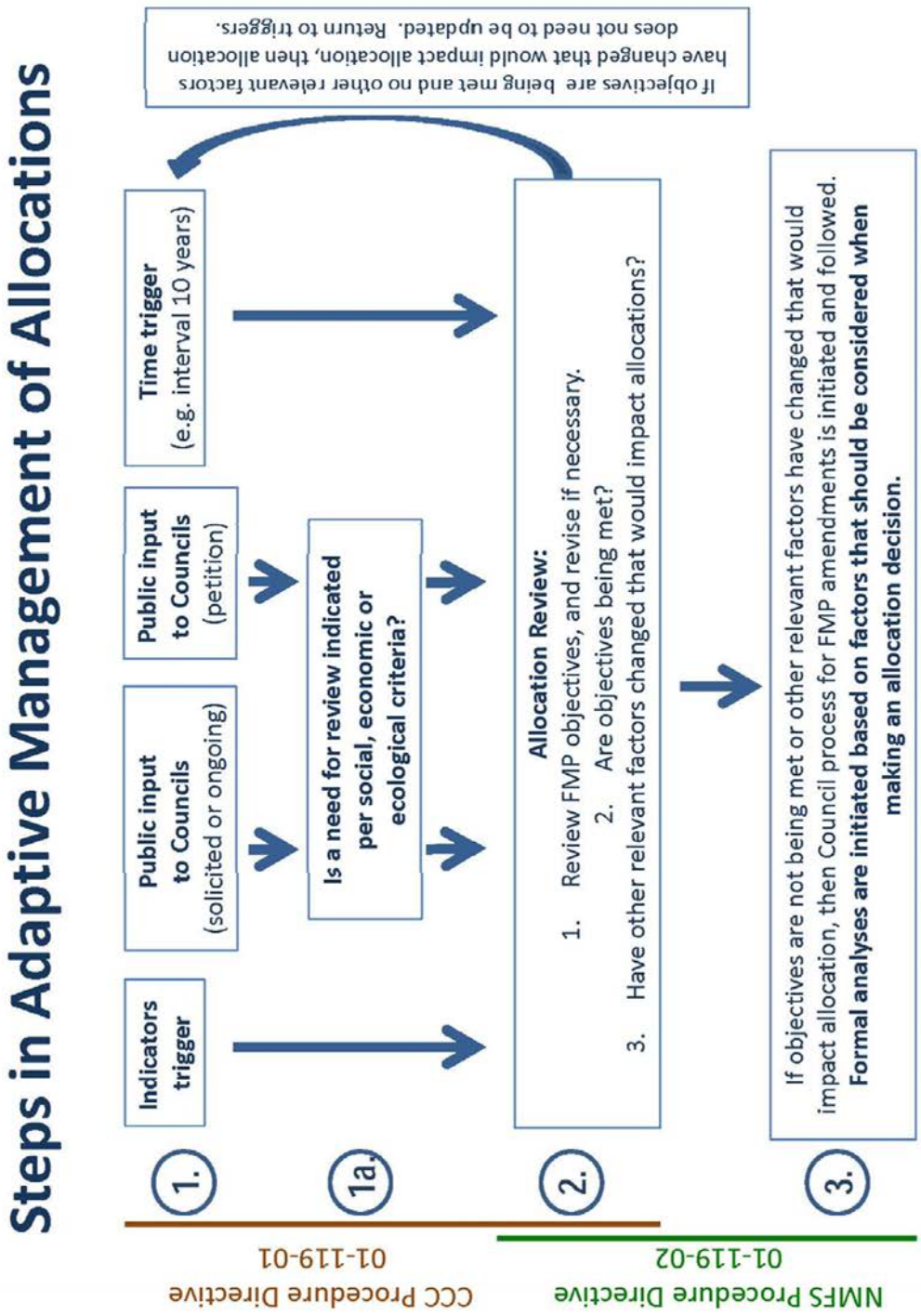


Figure 4.3.1. Fisheries allocation review process as outlined in the NMFS allocation policy published July 27, 2016.

Chapter 5. Council's Choice for the Preferred Alternative

Chapter 6. Cumulative Effects

Chapter 7. List of Preparers

Table 7-1. List of preparers of the document.

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NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Table 7-2. List of interdisciplinary plan team members for the document.

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NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

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List of Agencies, Organizations, and Persons Consulted
SAFMC Law Enforcement Advisory Panel
SAFMC Snapper Grouper Advisory Panel
SAFMC Scientific and Statistical Committee
SAFMC Information and Education Advisory Panel
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
Atlantic States Marine Fisheries Commission
Gulf of Mexico Fishery Management Council
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

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Appendix A. Alternatives Considered, but Eliminated from Detailed Analysis

Appendix B. Glossary

Acceptable Biological Catch (ABC Acceptable Biological Catch (ABC): Maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

Accountability measure (AM): AMs are fishery management rules that prevent annual catch limits from being exceeded (i.e. prevent overfishing) and make corrections when fishing goes over the annual catch limit.

ALS: Accumulative Landings System. NMFS database which contains commercial landings reported by dealers.

Annual Catch Limit (ACL): The amount of a particular fish species, stock or stock complex that can be caught in a given year.

Annual Catch Target (ACT): An annual catch target is an amount of annual catch that serves as the management target, set below the annual catch limit to account for management uncertainty.

Biomass: Amount or mass of some organism, such as fish.

B_{MSY}: Biomass of population achieved in long-term by fishing at F_{MSY}.

Bycatch: Fish harvested in a fishery, but not sold or kept for personal use. Bycatch includes economic discards and regulatory discards, but not fish released alive under a recreational catch and release fishery management program.

Caribbean Fishery Management Council (CFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The CFMC develops fishery management plans for fisheries off the coast of the U.S. Virgin Islands and the Commonwealth of Puerto Rico.

Catch Per Unit Effort (CPUE): The amount of fish captured with an amount of effort. CPUE can be expressed as weight of fish captured per fishing trip, per hour spent at sea, or through other standardized measures.

Charter Boat: A fishing boat available for hire by recreational anglers, normally by a group of anglers for a short time period.

Cohort: Fish born in a given year. (See year class.)

Control Date: Date established for defining the pool of potential participants in a given management program. Control dates can establish a range of years during which a potential participant must have been active in a fishery to qualify for a quota share.

Constant Catch Rebuilding Strategy: A rebuilding strategy where the allowable biological catch of an overfished species is held constant until stock biomass reaches B_{MSY} at the end of the rebuilding period.

Constant F Rebuilding Strategy: A rebuilding strategy where the fishing mortality of an overfished species is held constant until stock biomass reached BMSY at the end of the rebuilding period.

Directed Fishery: Fishing directed at a certain species or species group.

Discards: Fish captured, but released at sea.

Discard Mortality Rate: The percent of total fish discarded that do not survive being captured and released at sea.

Derby: Fishery in which the TAC is fixed and participants in the fishery do not have individual quotas. The fishery is closed once the TAC is reached, and participants attempt to maximize their harvests as quickly as possible. Derby fisheries can result in capital stuffing and a race for fish.

Effort: The amount of time and fishing power (i.e., gear size, boat size, horsepower) used to harvest fish.

Exclusive Economic Zone (EEZ): Zone extending from the shoreline out to 200 nautical miles in which the country owning the shoreline has the exclusive right to conduct certain activities such as fishing. In the United States, the EEZ is split into state waters (typically from the shoreline out to 3 nautical miles) and federal waters (typically from 3 to 200 nautical miles).

Exploitation Rate: **Amount of fish harvested from a stock relative to the size of the stock, often expressed as a percentage.**

F: **Fishing mortality.**

Fecundity: A measurement of the egg-producing ability of fish at certain sizes and ages.

Fishery Dependent Data: Fishery data collected and reported by fishermen and dealers.

Fishery Independent Data: Fishery data collected and reported by scientists who catch the fish themselves.

Fishery Management Plan: **Management plan for fisheries operating in federal waters. Produced by regional fishery management councils and submitted to the Secretary of Commerce for approval.**

Fishing Effort: **Usually refers to the amount of fishing. May refer to the number of fishing vessels, amount of fishing gear (nets, traps, hooks), or total amount of time vessels and gear are actively engaged in fishing.**

Fishing Mortality: A measurement of the rate at which fish are removed from a population by fishing. Fishing mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Fishing Power: Measure of the relative ability of a fishing vessel, its gear, and its crew to catch fishes, in reference to some standard vessel, given both vessels are under identical conditions.

$F_{30\%SPR}$: Fishing mortality that will produce a static SPR = 30%.

$F_{45\%SPR}$: Fishing mortality that will produce a static SPR = 45%.

F_{OY}: Fishing mortality that will produce OY under equilibrium conditions and a corresponding biomass of B_{OY}. Usually expressed as the yield at 85% of F_{MSY}, yield at 75% of F_{MSY}, or yield at 65% of F_{MSY}.

F_{MSY}: Fishing mortality that if applied constantly, would achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}

Fork Length (FL): The length of a fish as measured from the tip of its snout to the fork in its tail.

Gear restrictions: **Limits placed on the type, amount, number, or techniques allowed for a given type of fishing gear.**

Growth Overfishing: When fishing pressure on small fish prevents the fishery from producing the maximum poundage. Condition in which the total weight of the harvest from a fishery is improved when fishing effort is reduced, due to an increase in the average weight of fishes.

Gulf of Mexico Fishery Management Council (GFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The GFMC develops fishery management plans for fisheries off the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.

Head Boat: A fishing boat that charges individual fees per recreational angler onboard.

Highgrading: Form of selective sorting of fishes in which higher value, more marketable fishes are retained, and less marketable fishes, which could legally be retained are discarded.

Individual Fishing Quota (IFQ): Fishery management tool that allocates a certain portion of the TAC to individual vessels, fishermen, or other eligible recipients.

Longline: Fishing method using a horizontal mainline to which weights and baited hooks are attached at regular intervals. Gear is either fished on the bottom or in the water column.

Magnuson-Stevens Fishery Conservation and Management Act: Federal legislation responsible for establishing the fishery management councils and the mandatory and discretionary guidelines for federal fishery management plans.

Marine Recreational Fisheries Statistics Survey (MRFSS): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data.

Marine Recreational Information Program (MRIP): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data.

Maximum Fishing Mortality Threshold (MFMT): The rate of fishing mortality above which a stock's capacity to produce MSY would be jeopardized.

Maximum Sustainable Yield (MSY): The largest long-term average catch that can be taken continuously (sustained) from a stock or stock complex under average environmental conditions.

Minimum Stock Size Threshold (MSST): The biomass level below which a stock would be considered overfished.

Modified F Rebuilding Strategy: A rebuilding strategy where fishing mortality is changed as stock biomass increases during the rebuilding period.

Multispecies fishery: Fishery in which more than one species is caught at the same time and location with a particular gear type.

National Marine Fisheries Service (NMFS): Federal agency within NOAA responsible for overseeing fisheries science and regulation.

National Oceanic and Atmospheric Administration: Agency within the Department of Commerce responsible for ocean and coastal management.

Natural Mortality (M): A measurement of the rate at which fish are removed from a population by natural causes. Natural mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Optimum Yield (OY): The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Overfished: A stock or stock complex is considered overfished when stock biomass falls below the minimum stock size threshold (MSST) (e.g., current biomass < MSST = overfished).

Overfishing: Overfishing occurs when a stock or stock complex is subjected to a rate of fishing mortality that exceeds the maximum fishing mortality threshold (e.g., current fishing mortality rate > MFMT = overfishing).

Quota: Percent or annual amount of fish that can be harvested.

Recruitment (R): Number or percentage of fish that survives from hatching to a specific size or age.

Recruitment Overfishing: The rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. This is characterized by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch, and generally very low recruitment year after year.

Scientific and Statistical Committee (SSC): Fishery management advisory body composed of federal, state, and academic scientists, which provides scientific advice to a fishery management council.

Selectivity: The ability of a type of gear to catch a certain size or species of fish.

South Atlantic Fisheries Management Council (SAFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

Spawning Potential Ratio (Transitional SPR): Formerly used in overfished definition. The number of eggs that could be produced by an average recruit in a fished stock divided by the number of eggs that could be produced by an average recruit in an unfished stock. SPR can also be expressed as the spawning stock biomass per recruit (SSBR) of a fished stock divided by the SSBR of the stock before it was fished.

% Spawning Per Recruit (Static SPR): Formerly used in overfishing determination. The maximum spawning per recruit produced in a fished stock divided by the maximum spawning per recruit, which occurs under the conditions of no fishing. Commonly abbreviated as %SPR.

Spawning Stock Biomass (SSB): The total weight of those fish in a stock which are old enough to spawn.

Spawning Stock Biomass Per Recruit (SSBR): The spawning stock biomass divided by the number of recruits to the stock or how much spawning biomass an average recruit would be expected to produce.

Total Allowable Catch (TAC): The total amount of fish to be taken annually from a stock or stock complex. This may be a portion of the Allowable Biological Catch (ABC) that takes into consideration factors such as bycatch.

Total Length (TL): The length of a fish as measured from the tip of the snout to the tip of the tail.

Appendix C. Other Applicable Law

Appendix D. History of Management

History of Management of the South Atlantic Snapper Grouper Fishery

The snapper grouper fishery is highly regulated; some of the species included in this amendment have been regulated since 1983. The following table summarizes actions in each of the amendments to the original fishery management plan (FMP), as well as some events not covered in amendment actions.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
FMP (1983)	08/31/83	PR: 48 FR 26843 FR: 48 FR 39463	-12" total length (TL) limit – red snapper, yellowtail snapper, red grouper, Nassau grouper -8" limit – black sea bass -4" trawl mesh size -Gear limitations – poisons, explosives, fish traps, trawls -Designated modified habitats or artificial reefs as Special Management Zones (SMZs)
Regulatory Amendment #1 (1987)	03/27/87	PR: 51 FR 43937 FR: 52 FR 9864	-Prohibited fishing in SMZs except with hand-held hook-and-line and spearfishing gear. -Prohibited harvest of goliath grouper in SMZs.
Amendment #1 (1988a)	01/12/89	PR: 53 FR 42985 FR: 54 FR 1720	-Prohibited trawl gear to harvest fish south of Cape Hatteras, NC and north of Cape Canaveral, FL. -Directed fishery defined as vessel with trawl gear and ≥200 lb s-g on board. -Established rebuttable assumption that vessel with s-g on board had harvested such fish in the exclusive economic zone (EEZ).
Regulatory Amendment #2 (1988b)	03/30/89	PR: 53 FR 32412 FR: 54 FR 8342	-Established 2 artificial reefs off Ft. Pierce, FL as SMZs.
Notice of Control Date	09/24/90	55 FR 39039	-Anyone entering federal wreckfish fishery in the EEZ off S. Atlantic states after 09/24/90 was not assured of future access if limited entry program developed.
Regulatory Amendment #3 (1989)	11/02/90	PR: 55 FR 28066 FR: 55 FR 40394	-Established artificial reef at Key Biscayne, FL as SMZ. Fish trapping, bottom longlining, spear fishing, and harvesting of Goliath grouper prohibited in SMZ.
Amendment #2 (1990a)	10/30/90	PR: 55 FR 31406 FR: 55 FR 46213	-Prohibited harvest/possession of goliath grouper in or from the EEZ -Defined overfishing for goliath grouper and other species
Emergency Rule	8/3/90	55 FR 32257	-Added wreckfish to the fishery management unit (FMU) -Fishing year beginning 4/16/90 -Commercial quota of 2 million pounds -Commercial trip limit of 10,000 pounds per trip
Fishery Closure Notice	8/8/90	55 FR 32635	- Fishery closed because the commercial quota of 2 million pounds was reached
Emergency Rule Extension	11/1/90	55 FR 40181	-extended the measures implemented via emergency rule on 8/3/90
Amendment #3 (1990b)	01/31/91	PR: 55 FR 39023 FR: 56 FR 2443	-Added wreckfish to the FMU -Defined optimum yield and overfishing -Required permit to fish for, land or sell wreckfish -Required catch and effort reports from selected, permitted vessel;

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
			-Established control date of 03/28/90 -Established a fishing year for wreckfish starting April 16 -Established a process to set annual quota, with initial quota of 2 million pounds; provisions for closure -Established 10,000 pound trip limit -Established a spawning season closure for wreckfish from January 15 to April 15 -Provided for annual adjustments of wreckfish management measures
Notice of Control Date	07/30/91	56 FR 36052	-Anyone entering federal snapper grouper fishery (other than for wreckfish) in the EEZ off S. Atlantic states after 07/30/91 was not assured of future access if limited entry program developed.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #4 (1991)	01/01/92	PR: 56 FR 29922 FR: 56 FR 56016	-Prohibited gear: fish traps except black sea bass traps north of Cape Canaveral, FL; entanglement nets; longline gear inside 50 fathoms; bottom longlines to harvest wreckfish; powerheads and bangsticks in designated SMZs off S. Carolina -defined overfishing/overfished and established rebuilding timeframe: red snapper and groupers ≤ 15 years (year 1 = 1991); other snappers, greater amberjack, black sea bass, red porgy ≤ 10 years (year 1 = 1991) -Required permits (commercial & for-hire) and specified data collection regulations -Established an assessment group and annual adjustment procedure (framework) -Permit, gear, and vessel id requirements specified for black sea bass traps -No retention of snapper grouper spp. caught in other fisheries with gear prohibited in snapper grouper fishery if captured snapper grouper had no bag limit or harvest was prohibited. If had a bag limit, could retain only the bag limit -8" TL limit – lane snapper -10" TL limit – vermilion snapper (recreational only) -12" TL limit – red porgy, vermilion snapper (commercial only), gray, yellowtail, mutton, schoolmaster, queen, blackfin, cubera, dog, mahogany, and silk snappers -20" TL limit – red snapper, gag, and red, black, scamp, yellowfin, and yellowmouth groupers. -28" fork length (FL) limit – greater amberjack (recreational only) -36" FL or 28" core length – greater amberjack (commercial only) -bag limits – 10 vermilion snapper, 3 greater amberjack -aggregate snapper bag limit – 10/person/day, excluding vermilion snapper and allowing no more than 2 red snappers -aggregate grouper bag limit – 5/person/day, excluding Nassau and goliath grouper, for which no retention (recreational & commercial) is allowed -spawning season closure – commercial harvest greater amberjack > 3 fish bag prohibited in April south of Cape Canaveral, FL -spawning season closure – commercial harvest mutton snapper >snapper aggregate prohibited during May and June -charter/headboats and excursion boat possession limits extended

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #5 (1992a)	04/06/92	PR: 56 FR 57302 FR: 57 FR 7886	-Wreckfish: established limited entry system with individual transferable quotas (ITQs); required dealer to have permit; rescinded 10,000 lb. trip limit; required off-loading between 8 am and 5 pm; reduced occasions when 24-hour advance notice of offloading required for off-loading; established procedure for initial distribution of percentage shares of total allowable catch (TAC)
Emergency Rule	8/31/92	57 FR 39365	-Black Sea Bass (bsb): modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Emergency Rule Extension	11/30/92	57 FR 56522	-Black Sea Bass: modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Regulatory Amendment #4 (1992b)	07/06/93	FR: 58 FR 36155	-Black Sea Bass: modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Regulatory Amendment #5 (1992c)	07/31/93	PR: 58 FR 13732 FR: 58 FR 35895	-Established 8 SMZs off S. Carolina, where only hand-held, hook-and-line gear and spearfishing (excluding powerheads) was allowed
Amendment #6 (1993)	07/27/94	PR: 59 FR 9721 FR: 59 FR 27242	-Set up separate commercial TAC levels for golden tilefish and snowy grouper -Established commercial trip limits for snowy grouper, golden tilefish, speckled hind, and warsaw grouper -Included golden tilefish in grouper recreational aggregate bag limits -Prohibited sale of warsaw grouper and speckled hind -100% logbook coverage upon renewal of permit -Creation of the *Oculina* Experimental Closed Area -Data collection needs specified for evaluation of possible future individual fishing quota system
Amendment #7 (1994a)	01/23/95	PR: 59 FR 47833 FR: 59 FR 66270	-12” FL – hogfish -16” TL – mutton snapper -Required dealer, charter and headboat federal permits -Allowed sale under specified conditions -Specified allowable gear and made allowance for experimental gear -Allowed multi-gear trips in NC -Added localized overfishing to list of problems and objectives -Adjusted bag limit and crew specs. for charter and head boats -Modified management unit for scup to apply south of Cape Hatteras, NC -Modified framework procedure
Regulatory Amendment #6 (1994b)	05/22/95	PR: 60 FR 8620 FR: 60 FR 19683	-Established actions which applied only to EEZ off Atlantic coast of FL: Bag limits – 5 hogfish/person/day (recreational only), 2 cubera snapper/person/day > 30” TL; 12” TL – gray triggerfish
Notice of Control Date	04/23/97	62 FR 22995	-Anyone entering federal bsb pot fishery off S. Atlantic states after 04/23/97 was not assured of future access if limited entry program developed

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #8 (1997)	12/14/98	PR: 63 FR 1813 FR: 63 FR 38298	-Established program to limit initial eligibility for snapper grouper fishery: Must demonstrate landings of any species in the snapper grouper (SG) FMU in 1993, 1994, 1995 or 1996; and have held valid SG permit between 02/11/96 and 02/11/97 -Granted transferable permit with unlimited landings if vessel landed ≥ 1,000 pounds (lb) of snapper grouper species in any of the years -Granted non-transferable permit with 225 lb trip limit to all other vessels -Modified problems, objectives, optimum yield (OY), and overfishing definitions -Expanded Council's habitat responsibility -Allowed retention of snapper grouper species in excess of bag limit on permitted vessel with a single bait net or cast nets on board -Allowed permitted vessels to possess filleted fish harvested in the Bahamas under certain conditions.
Regulatory Amendment #7 (1998a)	01/29/99	PR: 63 FR 43656 FR: 63 FR 71793	-Established 10 SMZs at artificial reefs off South Carolina.
Interim Rule Request	1/16/98		-Council requested all Amendment 9 measures except black sea bass pot construction changes be implemented as an interim request under the Magnuson-Stevens Act
Action Suspended	5/14/98		-NMFS informed the Council that action on the interim rule request was suspended
Emergency Rule Request	9/24/98		-Council requested Amendment 9 be implemented via emergency rule
Request not Implemented	1/22/99		-NMFS informed the Council that the final rule for Amendment 9 would be effective 2/24/99; therefore they did not implement the emergency rule

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #9 (1998b)	2/24/99	PR: 63 FR 63276 FR: 64 FR 3624	-Red porgy: 14" TL (recreational and commercial); 5 fish rec. bag limit; no harvest or possession > bag limit, and no purchase or sale, in March and April -Black sea bass: 10" TL (recreational and commercial); 20 fish rec. bag limit; required escape vents and escape panels with degradable fasteners in bsb pots -Greater amberjack: 1 fish rec. bag limit; no harvest or possession > bag limit, and no purchase or sale, during April; quota = 1,169,931 lb; began fishing year May 1; prohibited coring -Specified size limits for several snapper grouper species (indicated in parentheses in inches TL): including yellowtail snapper (12), mutton snapper (16), red snapper (20); red grouper, yellowfin grouper, yellowmouth grouper, and scamp (20) -Vermilion snapper: 11" TL (recreational), 12" TL commercial -Gag: 24" TL (recreational); no commercial harvest or possession > bag limit, and no purchase or sale, during March and April -Black grouper: 24" TL (recreational and commercial); no harvest or possession > bag limit, and no purchase or sale, during March and April -Gag and Black grouper: within 5 fish aggregate grouper bag limit, no more than 2 fish may be gag or black grouper (individually or in combination) -All snapper grouper without a bag limit: aggregate recreational bag limit 20 fish/person/day, excluding tomtate and blue runner -Vessels with longline gear aboard may only possess snowy, warsaw, yellowedge, and misty grouper, and golden, blueline and sand tilefish
Amendment #9 (1998b) resubmitted	10/13/00	PR: 63 FR 63276 FR: 65 FR 55203	-Commercial trip limit for greater amberjack
Emergency Interim Rule	09/08/99, expired 08/28/00	64 FR 48324 and 65 FR 10040	-Prohibited harvest or possession of red porgy
Emergency Action	9/3/99	64 FR 48326	-Reopened the Amendment 8 permit application process
Amendment #10 (1998c)	07/14/00	PR: 64 FR 37082 and 64 FR 59152 FR: 65 FR 37292	-Identified essential fish habitat (EFH) and established habitat areas of particular concern (HAPC) for species in the snapper grouper FMU

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #11 (1998d)	12/02/99	PR: 64 FR 27952 FR: 64 FR 59126	-Maximum sustainable yield (MSY) proxy: goliath and Nassau grouper = 40% static spawning potential ratio (SPR); all other species = 30% static SPR -OY: hermaphroditic groupers = 45% static SPR; goliath and Nassau grouper = 50% static SPR; all other species = 40% static SPR -Overfished/overfishing evaluations: BSB: overfished (minimum stock size threshold (MSST)=3.72 mp, 1995 biomass=1.33 mp); undergoing overfishing (maximum fishing mortality threshold (MFMT)=0.72, F1991-1995=0.95) Vermilion snapper: overfished (static SPR = 21-27%). Red porgy: overfished (static SPR = 14-19%). Red snapper: overfished (static SPR = 24-32%) Gag: overfished (static SPR = 27%) Scamp: no longer overfished (static SPR = 35%) Speckled hind: overfished (static SPR = 8-13%) Warsaw grouper: overfished (static SPR = 6-14%) Snowy grouper: overfished (static SPR = 5-15%) White grunt: no longer overfished (static SPR = 29-39%) Golden tilefish: overfished (couldn't estimate static SPR) Nassau grouper: overfished (couldn't estimate static SPR) Goliath grouper: overfished (couldn't estimate static SPR) -overfishing level: goliath and Nassau grouper = F>F40% static SPR; all other species: = F>F30% static SPR Approved definitions for overfished and overfishing. MSST = [(1-M) or 0.5 whichever is greater]*B_{MSY}. MFMT = F_{MSY}
Regulatory Amendment #8 (2000a)	11/15/00	PR: 65 FR 41041 FR: 65 FR 61114	-Established 12 SMZs at artificial reefs off Georgia; revised boundaries of 7 existing SMZs off Georgia to meet CG permit specs; restricted fishing in new and revised SMZs
Amendment #12 (2000b)	09/22/00	PR: 65 FR 35877 FR: 65 FR 51248	-Red porgy: MSY=4.38 mp; OY=45% static SPR; MFMT=0.43; MSST=7.34 mp; rebuilding timeframe=18 years (1999=year 1); no sale of red porgy during Jan-April; 1 fish bag limit; 50 lb. bycatch comm. trip limit May-December; modified management options and list of possible framework actions
Amendment #13A (2003)	04/26/04	PR: 68 FR 66069 FR: 69 FR 15731	-Extended for an indefinite period the regulation prohibiting fishing for and possessing snapper grouper spp. within the *Oculina* Experimental Closed Area
Notice of Control Date	10/14/05	70 FR 60058	-The Council is considering management measures to further limit participation or effort in the commercial fishery for snapper grouper species (excluding wreckfish)
Amendment #13C (2006)	10/23/06	PR: 71 FR 28841 FR: 71 FR 55096	- End overfishing of snowy grouper, vermilion snapper, black sea bass, and golden tilefish. Increase allowable catch of red porgy. Year 1 = 2006. 1. Snowy Grouper Commercial: Quota = 151,000 lb gutted

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			weight (gw) in year 1, 118,000 lb gw in year 2, and 84,000 lb gw in year 3 onwards. Trip limit = 275 lb gw in year 1, 175 lb gw in year 2, and 100 lb gw in year 3 onwards Recreational: Limit possession to one snowy grouper in 5 grouper per person/day aggregate bag limit. 2. Golden Tilefish Commercial: Quota of 295,000 lb gw, 4,000 lb gw trip limit until 75% of the quota is taken when the trip limit is reduced to 300 lb gw. Do not adjust the trip limit downwards unless 75% is captured on or before September 1. Recreational: Limit possession to 1 golden tilefish in 5 grouper per person/day aggregate bag limit. 3. Vermilion Snapper Commercial: Quota of 1,100,000 lb gw. Recreational: 12" TL size limit. 4. Black Sea Bass Commercial: Commercial quota of 477,000 lb gw in year 1, 423,000 lb gw in year 2, and 309,000 lb gw in year 3 onwards. Require use of at least 2" mesh for the entire back panel of black sea bass pots effective 6 months after publication of the final rule. Require black sea bass pots be removed from the water when the quota is met. Change fishing year from calendar year to June 1 – May 31. Recreational: Recreational allocation of 633,000 lb gw in year 1, 560,000 lb gw in year 2, and 409,000 lb gw in year 3 onwards. Increase minimum size limit from 10" to 11" in year 1 and to 12" in year 2. Reduce recreational bag limit from 20 to 15 per person per day. Change fishing year from the calendar year to June 1 through May 31. 5. Red Porgy Commercial and recreational: 1. Retain 14" TL size limit and seasonal closure (retention limited to the bag limit); 2. Specify a commercial quota of 127,000 lb gw and prohibit sale/purchase and prohibit harvest and/or possession beyond the bag limit when quota is taken and/or during January through April; 3. Increase commercial trip limit from 50 lb ww to 120 red porgy (210 lb gw) during May through December; 4. Increase recreational bag limit from one to three red porgy per person per day.
Notice of Control Date	3/8/07	72 FR 60794	-The Council may consider measures to limit participation in the snapper grouper for-hire sector
Amendment #14 (2007)	2/12/09	PR: 73 FR 32281 FR: 74 FR 1621	-Establish eight deepwater Type II marine protected areas (MPAs) to protect a portion of the population and habitat of long-lived deepwater snapper grouper species
Amendment #15A (2008a)	3/14/08	73 FR 14942	- Establish rebuilding plans and status determination criteria for snowy grouper, black sea bass, and red porgy
Amendment #15B (2008b)	2/15/10	PR: 74 FR 30569 FR: 74 FR 58902	-Prohibit the sale of bag-limit caught snapper grouper species -Reduce the effects of incidental hooking on sea turtles and smalltooth sawfish -Adjust commercial renewal periods and transferability

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			requirements -Implement plan to monitor and assess bycatch -Establish reference points for golden tilefish -Establish allocations for snowy grouper (95% com & 5% rec) and red porgy (50% com & 50% rec)
Amendment #16 (SAFMC 2009a)	7/29/09	PR: 74 FR 6297 FR: 74 FR 30964	-Specify status determination criteria for gag and vermilion snapper -For gag: Specify interim allocations 51% com & 49% rec; rec & com shallow water grouper spawning closure January through April; directed com quota= 352,940 lb gw; -reduce 5-fish aggregate grouper bag limit, including tilefish species, to a 3-fish aggregate -Captain and crew on for-hire trips cannot retain the bag limit of vermilion snapper and species within the 3-fish grouper aggregate -For vermilion snapper: Specify interim allocations 68% com & 32% rec; directed com quota split Jan-June=315,523 lb gw and 302,523 lb gw July-Dec; reduce bag limit from 10 to 5 and a rec closed season November through March -Require dehooking tools
Amendment #19 (Comprehensive Ecosystem-Based Amendment 1; SAFMC 2009b)	7/22/10	PR: 75 FR 14548 FR: 75 FR 35330	-Provide presentation of spatial information for EFH and EFH-HAPC designations under the Snapper Grouper FMP - Designation of deepwater coral HAPCs
Amendment #17A (SAFMC 2010a)	12/3/10 red snapper closure; circle hooks March 3, 2011	PR: 75 FR 49447 FR: 75 FR 76874	-Required use of non-stainless steel circle hooks when fishing for snapper grouper species with hook-and-line gear north of 28 deg. N latitude in the South Atlantic EEZ -Specify an ACL and an AM for red snapper with management measures to reduce the probability that catches will exceed the stocks' ACL -Specify a rebuilding plan for red snapper -Specify status determination criteria for red snapper -Specify a monitoring program for red snapper
Emergency Rule	12/3/10	75 FR 76890	- Delay the effective date of the area closure for snapper grouper species implemented through Amendment 17A
Amendment #17B (SAFMC 2010b)	January 31, 2011	PR: 75 FR 62488 FR: 75 FR 82280	-Specify ACLs, ACTs, and AMs, where necessary, for 9 species undergoing overfishing -Modify management measures as needed to limit harvest to the ACL or ACT -Update the framework procedure for specification of total allowable catch -Prohibited harvest of 6 deepwater species seaward of 240 feet to curb bycatch of speckled hind and warsaw grouper
Notice of Control Date	12/4/08	74 FR 7849	-Establishes a control date for the golden tilefish portion of the snapper grouper fishery in the South Atlantic

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Notice of Control Date	12/4/08	74 FR 7849	-Establishes control date for black sea bass pot sector in the South Atlantic
Regulatory Amendment #10 (SAFMC 2010c)	5/31/11	PR: 76 FR 9530 FR: 76 FR 23728	-Eliminate closed area for snapper grouper species approved in Amendment 17A
Regulatory Amendment #9 (SAFMC 2011a)	Bag limit: 6/22/11 Trip limits: 7/15/11	PR: 76 FR 23930 FR: 76 FR 34892	- Establish trip limits for vermilion snapper and gag, increase trip limit for greater amberjack, and reduce bag limit for black sea bass
Regulatory Amendment #11 (2011b)	5/10/12	PR: 76 FR 78879 FR: 77 FR 27374	- Eliminate 240 ft harvest prohibition for six deepwater species
Amendment # 25 (Comprehensive ACL Amendment) (SAFMC 2011c)	4/16/12	PR: 76 FR 74757 Amended PR: 76 FR 82264 FR: 77 FR 15916	-Establish acceptable biological catch (ABC) control rules, establish ABCs, annual catch limits (ACLs), and accountability measures (AMs) for species not undergoing overfishing -Remove some species from South Atlantic FMU and designate others as ecosystem component species -Specify allocations between the commercial and, recreational sectors for species not undergoing overfishing -Limit the total mortality for federally managed species in the South Atlantic to the ACLs
Amendment #24 (SAFMC 2011d)	7/11/12	PR: 77 FR 19169 FR: 77 FR 34254	-Specify MSY, rebuilding plan (including ACLs, AMs, and OY), and allocations for red grouper
Amendment #23 (Comprehensive Ecosystem-based Amendment 2; SAFMC 2011e)	1/30/12	PR: 76 FR 69230 FR: 76 FR 82183	- Designate the Deepwater MPAs as EFH-HAPCs - Limit harvest of snapper grouper species in SC SMZs to the bag limit - Modify sea turtle release gear
Amendment #20B	TBD	TBD	-Update wreckfish ITQ according to reauthorized Magnuson-Stevens Act
Amendment #18A (SAFMC 2012a)	7/1/12	PR: 77 FR 16991 FR: 77FR3 2408	- Limit participation and effort in the black sea bass sector - Modifications to management of the black sea bass pot sector - Improve the accuracy, timing, and quantity of fisheries statistics
Amendment #20A (SAFMC 2012b)	10/26/12	PR: 77 FR 19165 FR: 77 FR 59129	-Redistribute latent shares for the wreckfish ITQ program.

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Regulatory Amendment #12 (SAFMC 2012c)	10/9/12	FR: 77 FR 61295	-Adjust the ACL and OY for golden tilefish -Consider specifying a commercial Annual Catch Target (ACT) -Revise recreational AMs for golden tilefish
Amendment #18B (SAFMC 2013a)	5/23/13	PR: 77 FR 75093 FR: 77 FR 23858	-Limit participation and effort in the golden tilefish commercial sector through establishment of a longline endorsement -Modify trip limits -Specify allocations for gear groups (longline and hook and line)
Amendment # 26 (Comprehensive Ecosystem-Based Amendment 3)	TBD	TBD	-Modify bycatch and discard reporting for commercial and for-hire vessels
Regulatory Amendment #13 (SAFMC 2013b)	7/17/13	PR: 78 FR 17336 FR: 78 FR 36113	-Revise the ABCs, ACLs (including sector ACLs), and ACTs implemented by the Comprehensive ACL Amendment (SAFMC 2011c). The revisions may prevent a disjunction between the established ACLs and the landings used to determine if AMs are triggered.
Regulatory Amendment #14	TBD	PR: 79 FR 22936	-Modify the fishing year for greater amberjack -Modify the fishing year for black sea bass -Revise the AMs for vermilion snapper and black sea bass -Modify the trip limit for gag
Regulatory Amendment #15 (SAFMC 2013c)	9/12/13	PR: 78 FR 31511 FR: 78 FR 49183	-Modify the existing specification of OY and ACL for yellowtail snapper in the South Atlantic -Modify the existing gag commercial ACL and AM for gag that requires a closure of all other shallow water groupers (black grouper, red grouper, scamp, red hind, rock hind, graysby, coney, yellowmouth grouper, and yellowfin grouper) in the South Atlantic when the gag commercial ACL is met or projected to be met
Regulatory Amendment #16	TBD	TBD	-Consider removal of the November-April prohibition on the use of black sea bass pots
Amendment #27	1/27/14	PR: 78 FR 78770 FR: 78 FR 57337	-Establish the South Atlantic Council as the responsible entity for managing Nassau grouper throughout its range including federal waters of the Gulf of Mexico -Modify the crew member limit on dual-permitted snapper grouper vessels -Modify the restriction on retention of bag limit quantities of some snapper grouper species by captain and crew of for-hire vessels -Minimize regulatory delay when adjustments to snapper grouper species' ABC, ACLs, and ACTs are needed as a

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			result of new stock assessments -Address harvest of blue runner by commercial fishermen who do not possess a South Atlantic Snapper Grouper Permit
Amendment #28 (SAFMC 2013d)	8/23/13	PR: 78 FR 25047 FR: 78 FR 44461	-Establish regulations to allow harvest of red snapper in the South Atlantic
Regulatory Amendment #18 (SAFMC 2013e)	9/5/13	PR: 78 FR 26740 FR: 78 FR 47574	-Adjust ACLs for vermilion snapper and red porgy, and remove the 4-month recreational closure for vermilion snapper
Regulatory Amendment #19 (SAFMC 2013f)	ACL: 9/23/13 Pot closure: 10/23/13	PR: 78 FR 39700 FR: 78 FR 58249	-Adjust the ACL for black sea bass and implement an annual closure on the use of black sea bass pots from November 1 to April 30
Emergency Rule	4/17/14	79 FR 21636	-Remove the blueline tilefish portion from the deep-water complex -Establish separate commercial and recreational ACLs and AMs for blueline tilefish.
Amendment #32	TBD	TBD	-Modify composition of the deep-water complex -MSY, ACLs, OY, recreational ACT, AMs, for blueline tilefish -Commercial management measures for blueline tilefish -Recreational management measures -Rebuilding plan for blueline tilefish
Amendment #29	TBD	PR: 79 FR 72567	-Update the ABC Control Rule -Establish ACLs for select un-assessed snapper-grouper species -Modify the minimum size limit for gray triggerfish -Establish a commercial split season for gray triggerfish -Establish a commercial trip limit for gray triggerfish
Amendment #36	TBD	TBD	-Special management zones to protect spawning snapper grouper species.
Amendment #22	TBD	TBD	-Establish a recreational tagging program for snapper grouper species with small ACLs

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Amendment #35	TBD	TBD	-Remove black snapper, dog snapper, mahogany snapper, & school master from the Snapper Grouper FMU
Amendment #36	TBD	TBD	-Spawning SMZs off NC, SC, GA, and FL
Regulatory Amendment 22	TBD	TBD	-Revise ACL and OY for gag -Revise ACL and OY for wreckfish
Amendment #33	TBD	TBD	-Require all snapper-grouper fillets being brought into the U.S. EEZ from the Bahamas to have skin on the entire fillets -Two fillets of snapper-grouper count as one fish, and a maximum of 40 fillets are allowed to be brought into the U.S. EEZ from the Bahamas

Appendix E. Bycatch Practicability Analysis

Appendix F. Regulatory Impact Review

Appendix G. Regulatory Flexibility Act Analysis

Appendix H. Fishery Impact Statement

Appendix I. Essential Fish Habitat and Move to Ecosystem Based Management