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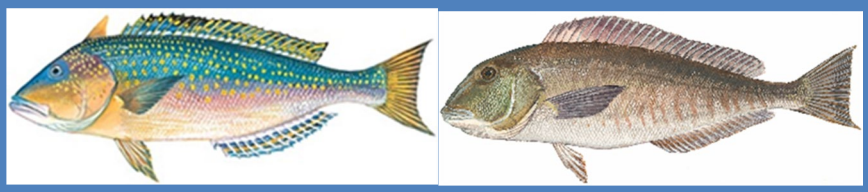

Amendment 52

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

Catch Level Adjustments and Allocations for Golden Tilefish; Management and Accountability Measures for Golden Tilefish and Blueline Tilefish

Environmental Assessment, Regulatory Flexibility Act Analysis, and Regulatory Impact Review

PUBLIC HEARING DRAFT
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PUBLIC HEARING DRAFT

Amendment 52
to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region

Proposed actions: The actions in Amendment 52 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region would modify management of South Atlantic golden tilefish and blueline tilefish. Actions would: Revise the golden tilefish overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield; Revise sector allocations and sector annual catch limits for golden tilefish; Modify the fishing year for the commercial longline fishery for golden tilefish; Modify recreational accountability measures; Modify blueline tilefish recreational bag limit; Modify blueline tilefish recreational season; and Modify recreational accountability measures for blueline tilefish.

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This Environmental Assessment (EA) is being prepared using the 2020 CEQ NEPA Regulations. The effective date of the 2020 CEQ NEPA Regulations was September 14, 2020, and reviews begun after this date are required to apply the 2020 regulations unless there is a clear and fundamental conflict with an applicable statute. 85 Fed. Reg. at 43372-73 (§§ 1506.13, 1507.3(a)). This EA began on [DATE] and accordingly proceeds under the 2020 regulations.

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Why is the South Atlantic Fishery Management Council considering action?

Golden Tilefish

Current management of South Atlantic golden tilefish is based on an update of SEDAR 25 completed in 2016 with an assessment period of 1962-2014 (SEDAR 2016). This amendment addresses the SEDAR 66 standard assessment for golden tilefish, which was completed in 2021, and includes recreational landings estimates using the Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES). Revised catch levels would be specified based on the Scientific and Statistical Committee (SSC)'s recommended acceptable biological catch (ABC) and this most recent assessment.

The Council received the results of the assessment and the SSC's recommendations for the overfishing limit (OFL) and ABC at their June 2021 meeting. The SSC determined the stock is no longer experiencing overfishing, but there is a high degree of uncertainty in the stock status determination since the stock is being fished at or close to maximum sustainable yield (MSY). The Council directed staff to begin work on a plan amendment to adjust catch levels based on the SSC recommendations and SEDAR 66 (2021).

The Council is also responding to an industry request to vary the fishing year for the longline component of the commercial golden tilefish sector which would avoid oversupplying the market in the first part of January and allow commercial longline vessels to remain fishing for golden tilefish during Lent when prices tend to be relatively high.

An application providing an overview of the golden tilefish fishery, including management history, landings, and assessment information, can be found here: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataTilefish/.

Blueline Tilefish

In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL, and the National Standard Guidelines contain the following language: *If the 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 reevaluated and modified if necessary to improve its performance and effectiveness.*

The recreational sector has a four-month season, May 1 through August 31, that was established in 2015 through Amendment 32. The amendment also established a 1 fish per vessel limit during the open season. The bag limit was increased to the current 3 fish per person per day through implementation of Regulatory Amendment 25 in 2016.

The in-season recreational accountability measure currently in place is triggered when recreational landings meet, or are projected to meet, the recreational ACL. The post-season

accountability measure is triggered by an overage of the recreational ACL, an overage of the total (commercial and recreational) ACL, and an overfished determination for the stock. If those criteria are met, a payback of the overage and a reduction in next year's fishing season are implemented. These accountability measures have not been triggered for blueline tilefish despite overages of the recreational ACL. The AM has not been triggered due to landings estimates not being available until after the season closes. Overages of the recreational ACL have not been corrected because blueline tilefish are currently not overfished. Hence, the Council intends to re-evaluate the system of accountability measures for the recreational sector and consider modification to recreational management measures.

An application providing an overview of the blueline tilefish fishery, including management history, landings, and assessment information, can be found here: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataBluelineTilefish/

Purpose and Need

Purpose: The purpose is to revise the overfishing limit, acceptable biological catch, annual optimum yield, total annual catch limit and sector allocations for golden tilefish based on the most recent stock assessment. Additionally, the purpose is to consider modifications to management measures and accountability measures for golden tilefish and blueline tilefish.

Need: The need is to base conservation and management measures on the best scientific information available and achieve optimum yield, consistent with the Magnuson-Stevens Act and its National Standards.

What actions are being proposed in this plan amendment?

Amendment 52 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region proposes seven actions. Below are the Council's preferred alternatives for Actions 1 through Action 7.

Action 1: Revise the golden tilefish overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield

Purpose of Action: The golden tilefish total ACL is being revised to incorporate the new ABC recommendations of the SSC, based on the SEDAR 66 (2021) stock assessment, as well as the updated recreational landings from the Marine Recreational Information Program's (MRIP) Fishing Effort Survey (FES).

Preferred Alternative 2. Preferred Alternative 2. The total annual catch limit and annual optimum yield for golden tilefish are equal to the updated acceptable biological catch level. The updated acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program's Fishing Effort Survey.

Year	Overfishing Limit	ABC (lbs gw)	Annual OY (lbs gw)	Total ACL (lbs gw)
2023	562,000	435,000	435,000	435,000
2024	552,000	448,000	448,000	448,000
2025	543,000	458,000	458,000	458,000
2026+	535,000	466,000	466,000	466,000

Action 2: Revise sector allocations and sector annual catch limits for golden tilefish

Purpose of Action: Allocations need to be reviewed since the recreational landings stream changed in the new assessment. Recreational landings are now estimated using data from the Fishing Effort Survey rather than the Coastal Household Telephone Survey.

Preferred Alternative 2. Allocate 96.70% of the revised total annual catch limit for golden tilefish to the commercial sector and 3.30% of the revised total annual catch limit for golden tilefish to the recreational sector. Within the commercial sector 25% is allocated to hook and line (HL) component and 75% to the longline (LL) component.

Year		Commercial ACL (lbs gw) (96.7% of Total ACL)	Recreational ACL (numbers of fish)

	Total ACL= ABC	Total	HL (25%)	LL (75%)	(3.3% of Total ACL)
2023	435,000	420,645	105,161	315,484	2,559
2024	448,000	433,216	108,304	324,912	2,635
2025	458,000	442,886	110,722	332,165	2,694
2026+	466,000	450,622	112,656	337,967	2,741

Note: Recreational ACL in numbers of fish was calculated using the average weight from recreational samples in SEDAR 66 data from 2016 through 2018.

Action 3. Modify the fishing year for the commercial golden tilefish hook and line and longline components

Purpose of Action: The Council is responding to an industry request to vary the fishing year for commercial golden tilefish sectors which would avoid oversupplying the market in the first part of January and allow commercial longline vessels to remain fishing for golden tilefish during Lent when prices tend to be relatively high.

Alternative 1 (No Action). Do not modify the commercial fishing year for golden tilefish (January 1- December 31.)

Alternative 2. Modify the fishing year for the commercial hook and line component.

Sub-Alternative 2a. Modify the fishing year to start January 15.
Sub-Alternative 2b. Modify the fishing year to start January 22.
Sub-Alternative 2c. Modify the fishing year to start February 1.

Preferred Alternative 3. Modify the fishing year for the commercial longline component.

Preferred Sub-Alternative 3a. Modify the fishing year to start January 15.
Sub-Alternative 3b. Modify the fishing year to start January 22.
Sub-Alternative 3c. Modify the fishing year to start February 1.

Action 4. Modify recreational accountability measures for golden tilefish.

Purpose of Action: Modifications to recreational accountability measures for golden tilefish are being considered to prevent recreational landings from exceeding the ACL and correcting for overages if they occur.

	Recreational AMs	
	Trigger	**Accountability Measure**
Alternative 1 (No action)	• Recreational landings exceed the recreational ACL • Golden tilefish is identified as overfished; • The combined commercial and recreational ACL is exceeded in the same calendar year. **All triggers must be met.**	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Alternative 2	• Recreational landings exceed the recreational ACL	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Preferred Alternative 3	NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on January 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.	

Action 5. Modify blueline tilefish recreational bag limit.

Purpose of Action: The Council is considering lowering the recreational bag limit to lower the chance of the sector having overages and exceeding the ACL. In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL.

Alternative 1 (No Action). The captain and crew of a for-hire vessel with a valid Federal South Atlantic Charter/Headboat Snapper Grouper Permit are allowed to retain bag limit quantities of all snapper grouper species during the open recreational season.

Preferred Alternative 2. Reduce recreational blueline tilefish bag limit to 2 fish per person per day.

Alternative 3. Reduce recreational blueline tilefish bag limit to 1 fish per person per day.

Preferred Alternative 4. Do not allow retention of blueline tilefish by captain and crew.

Action 6. Modify blueline tilefish recreational season.

Purpose of Action: The Council is modifying the recreational season to reduce recreational harvest and reduce the chance of the sector having overages and exceeding the ACL. In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL.

Alternative 1 (No Action). Do not modify the blueline tilefish recreational season. The current recreational season is May 1-August 31.

Alternative 2. Modify blueline tilefish recreational season to May 1 through July 30.

Alternative 3. Modify blueline tilefish recreational season to June 1 through August 31.

Preferred Alternative 4. Modify blueline tilefish recreational season to May 1 through June 30.

Alternative 5. Modify blueline tilefish recreational season to July 1 through August 31.

Action 7. Modify recreational accountability measures for blueline tilefish.

Purpose of Action: The Council is considering modifying the recreational accountability measures to increase the ability to ensure the sector stays within the recreational ACL and address overages regardless of whether the stock is overfished or the total ACL was exceeded. In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL.

	Recreational AMs	
	Trigger	**Accountability Measure**
Alternative 1 (No action)	• Recreational landings exceed the recreational ACL • Blueline tilefish is identified as overfished; • The combined commercial and recreational ACL is exceeded in the same calendar year. **All triggers must be met.**	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 2	• Recreational landings exceed the recreational ACL	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Preferred Alternative 3	NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on May 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.	

Chapter 1. Introduction

1.1 What actions are being proposed in this plan amendment?

The actions in Amendment 52 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) would modify management of South Atlantic golden tilefish and blueline tilefish. For golden tilefish, actions include revising the overfishing limit (OFL), acceptable biological catch (ABC), total annual catch limit (ACL), annual optimum yield (OY), sector allocations, sector ACLs recreational accountability measures (AM), and management measures for the commercial sector. For blueline tilefish, actions include revising recreational bag limits, recreational season, and recreational accountability measures.

1.2 Who is proposing the amendment?

The South Atlantic Fishery Management Council (Council) is responsible for managing snapper grouper species in the South Atlantic region. The Council develops the amendment and submits it to the National Marine Fisheries Service (NMFS) who determines whether approve the amendment and to publish a rule to implement the amendment on behalf of the Secretary of Commerce. NMFS is an agency of the National Oceanic and Atmospheric Administration within the Department of Commerce. Guided by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Council works with NMFS and other partners to sustainably manage fishery resources in the South Atlantic.

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks in the South Atlantic Region.
- Consists of 13 voting members who are appointed by the Secretary of Commerce, 1 representative from each of the 4 South Atlantic states, the Southeast Regional Administrator 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 nautical miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West, except for Mackerel which is from New York to Florida, and Dolphin-Wahoo, which is from Maine to Florida.

The Council and NMFS are also responsible for making this document available for public comment. The draft environmental assessment (EA) was made available to the public during the scoping process, public hearings, and Council meetings. The EA/amendment will be made available for comment during the rulemaking process.

1.3 Where is the project located?

Management of the federal snapper grouper fishery located off the southeastern United States (South Atlantic) in the 3-200 nautical miles U.S. exclusive economic zone (EEZ) is conducted under the Snapper Grouper FMP (SAFMC 1983) (Figure 1.3.1). There are 55 species managed by the Council under the Snapper Grouper FMP.

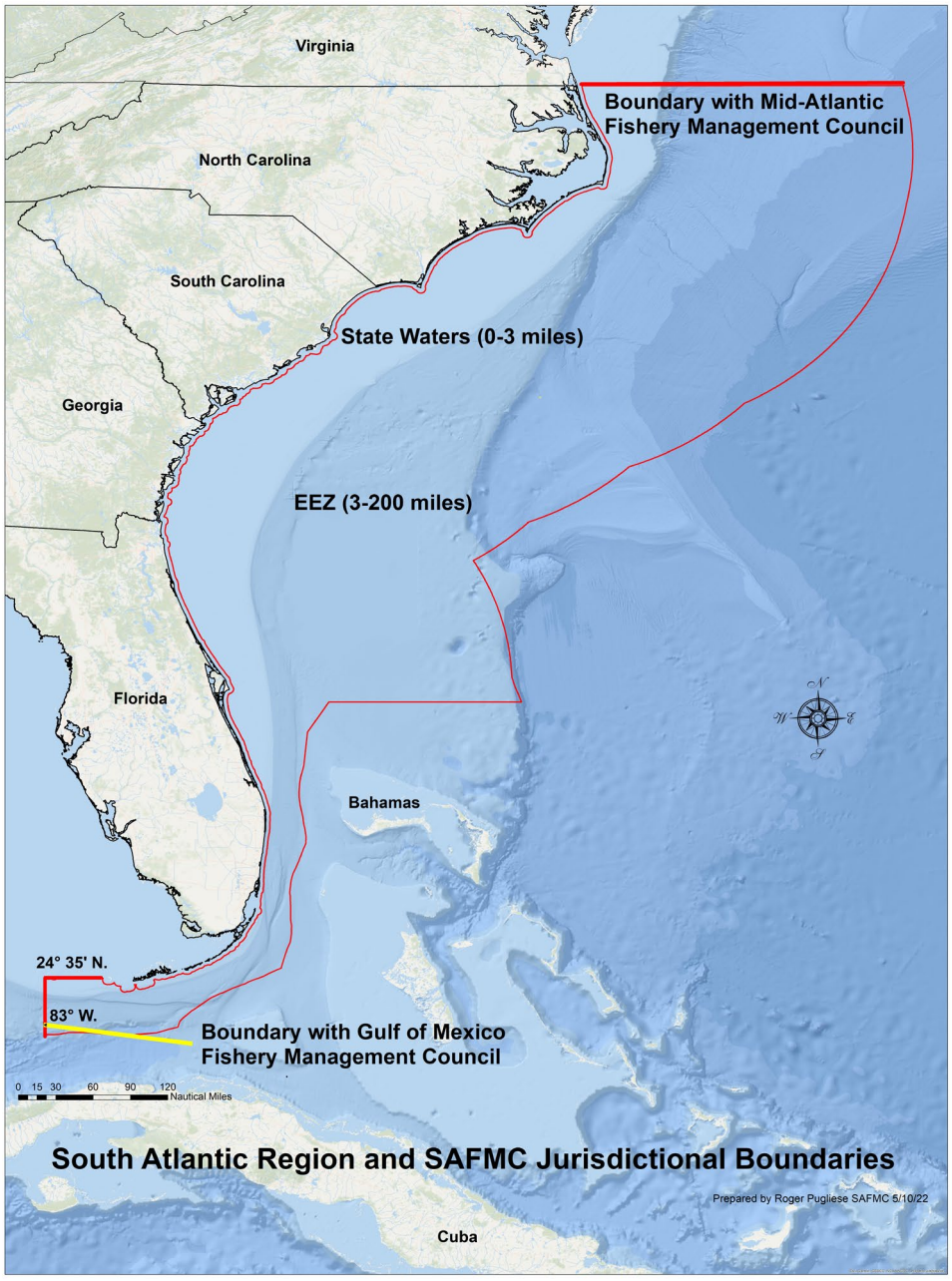

Figure 1.3.1. Jurisdictional boundaries of the Council.

1.4 Why is the Council considering action (Purpose and need statement)?

Purpose for Action

The purpose is to revise the overfishing limit, acceptable biological catch, annual optimum yield, total annual catch limit and sector allocations for golden tilefish based on the most recent stock assessment. Additionally, the purpose is to consider modifications to management measures and accountability measures for golden tilefish and blueline tilefish.

Need for Action

The need is to base conservation and management measures on the best scientific information available and achieve optimum yield, consistent with the Magnuson-Stevens Act and its National Standards.

Golden Tilefish

Current management of South Atlantic golden tilefish is based on an update of SEDAR 25 completed in 2016 with an assessment period of 1962-2014 (SEDAR 2016). This amendment addresses the SEDAR 66 standard assessment for golden tilefish, which was completed in 2020, and includes recreational landings estimates using the Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES). Revised catch levels would be specified based on the Scientific and Statistical Committee (SSC)'s recommended acceptable biological catch (ABC) and this most recent assessment.

The Council received the results of the assessment and the SSC's recommendations for the overfishing limit (OFL) and ABC at their June 2021 meeting. The SSC determined the stock is no longer experiencing overfishing, but there is a high degree of uncertainty in the stock status determination since the stock is being fished at or close to maximum sustainable yield (MSY). The Council directed staff to begin work on a plan amendment to adjust catch levels based on the SSC recommendations and SEDAR 66 (2021).

The Council is also responding to an industry request to vary the fishing year for the longline component of the commercial golden tilefish sector which would avoid oversupplying the market in the first part of January and allow commercial longline vessels to remain fishing for golden tilefish during Lent when prices tend to be relatively high.

An application providing an overview of the golden tilefish fishery, including management history, landings, and assessment information, can be found here: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataTilefish/.

Blueline Tilefish

In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL, and the National Standard Guidelines contain the following language: *If the 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 reevaluated and modified if necessary to improve its performance and effectiveness.*

The recreational sector has a four-month season, May 1 through August 31, that was established in 2015 through Amendment 32. The amendment also established a 1 fish per vessel limit during the open season. The bag limit was increased to the current 3 fish per person per day through implementation of Regulatory Amendment 25 in 2016.

The in-season recreational accountability measure currently in place is triggered when recreational landings meet, or are projected to meet, the recreational ACL. The post-season accountability measure is triggered by an overage of the recreational ACL, an overage of the total (commercial and recreational) ACL, and an overfished determination for the stock. If those criteria are met, a payback of the overage and a reduction in next year's fishing season are implemented. These accountability measures have not been triggered for blueline tilefish despite overages of the recreational ACL. The in-season AM has not been triggered due to landings estimates not being available until after the season closes. Overages of the recreational ACL have not been corrected because blueline tilefish are currently not overfished. Hence, the Council intends to re-evaluate the system of accountability measures for the recreational sector and consider modification to recreational management measures.

An application providing an overview of the blueline tilefish fishery, including management history, landings, and assessment information, can be found here: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataBluelineTilefish/ .

1.5 What are the Acceptable Biological Catch and Overfishing Limit recommendations for golden tilefish?

The SSC reviewed the golden tilefish stock assessment (SEDAR 66 2020) at their April/May 2021 meeting. The SSC found that the assessment addressed the terms of reference appropriately, was conducted using the best scientific information available, was adequate for determining stock status and supporting fishing level recommendations and addressed uncertainty consistent with expectations and available information. The SSC applied the ABC Control Rule and recommended OFLs and ABCs for golden tilefish (Table 1.5.1). Recommendations were in total removals and were adjusted for discards so they are expressed in landings. Projections that resulted in the recommendations are included in Appendix L.

Table 1.5.1. South Atlantic golden tilefish OFL and ABC recommendations in pounds gutted weight (lbs gw) and numbers of fish (Source: SSC Report May 2021). Note: Any changes to catch levels would be effective in 2023 and the 2026 level would remain in place until modified.

OFL RECOMMENDATIONS		
Year	**Landings (lbs gw)**	**Landings (numbers of fish)**
2023	562,000	69,000
2024	552,000	68,000
2025	543,000	67,000
2026+	535,000	66,000
ABC RECOMMENDATIONS		

Year	Landings (lbs gw)	Landings (numbers of fish)
2023	435,000	53,000
2024	448,000	54,000
2025	458,000	55,000
2026+	466,000	56,000

The Council is not changing the stock status criteria or formulas for determining the associated stock status values in this FMP amendment. In this FMP amendment, the Council is adopting the values as determined by the SEDAR 60 assessment and recommended by the SSC using the existing criteria and formulas (Deterministic value in Table 1.5.2).

Table 1.5.2. South Atlantic golden tilefish status criteria recommendations based on the results of SEDAR 66 2020 (SSC Meeting Report, April 2020).

Criteria	Deterministic	Probabilistic
Overfished evaluation (SSB/SSB_{msy})	0.271	0.285
Overfishing evaluation	1.730	1.664
MFMT (F_{msy})	0.18	0.18
SSB_{MSY} (mt)	2,883.7	2,902.6
MSST (mt)	2,162.8	2,177.0
MSY (1000 lbs.)	531.4	538.2
Y at 75% F_{MSY} (1000 lbs.)	515.7	521.9

1.6 How has recreational data collection changed in the southeast?

The Marine Recreational Fisheries Statistics Survey (MRFSS) was created in 1979 by the National Marine Fisheries Service (NMFS). The program included the Access Point Angler Intercept Survey (APAIS), which consists of onsite interviews at marinas and other points where recreational anglers fish, to determine catch. MRFSS also included Coastal Household Telephone Survey (CHTS), which used random-digit dialing of homes in coastal counties to contact anglers to determine fishing effort. In 2000, the For-Hire Survey (FHS) was implemented to incorporate for-hire effort due to lack of coverage of charter boat anglers by the CHTS. The FHS used a directory of all known charter boats and a weekly telephone sample of the charter boat operators to obtain effort information.

The Marine Recreational Information Program (MRIP)[1] replaced MRFSS in 2013 to meet increasing demand for more precise, accurate, and timely recreational catch estimates.

[1] A description of MRIP may be found https://www.fisheries.noaa.gov/recreational-fishing-data/about-marine-recreational-information-program.

MRIP is a more scientifically sound methodology for estimating catch because it reduces some sources of potential bias as compared to MRFSS resulting in more accurate catch estimates. Specifically, CHTS was improved to better estimate private angling effort. Instead of random telephone calls, MRIP-CHTS used targeted calls to anglers registered with a federal or state saltwater fishing registry. The MRIP also incorporated a new survey design for APAIS in 2013. This new design addressed concerns regarding the validity of the survey approach, specifically that trips recorded during a given time period are representative of trips for a full day (Foster et al. 2018). The more complete temporal coverage with the new survey design provides for consistent increases or decreases in APAIS angler catch rate statistics, which are used in stock assessments and management, for at least some species (NMFS 2021).

MRIP also transitioned from the legacy CHTS to a new mail survey (FES) beginning in 2015, and in 2018, the FES replaced the CHTS.

A detailed explanation and description of the changes may be found at https://www.fisheries.noaa.gov/recreational-fishing-data/effort-survey-improvements

Both survey methods collect data needed to estimate marine recreational fishing effort (number of fishing trips) by shore and private/rental boat anglers on the Atlantic and Gulf coasts. The new mail-based FES uses angler license and registration information as one way to identify and contact anglers (supplemented with data from the U.S. Postal Service, which includes virtually all U.S. households). Because the FES and CHTS are substantially different, the catch estimates produced from the data obtained through the two methods are not directly comparable, i.e., an estimated number of fish harvested by one method is not equivalent to the same estimated number of fish harvested by the other method. Consequently, NMFS conducted side-by side testing of the two methods from 2015 to 2018 and developed calibration procedures to convert the historical catch estimates (MRFSS, MRIP-CHTS, MRIP-APAIS [collectively MRFSS]) into MRIP-FES. In general, landings estimates are higher using the MRIP-FES as compared to the MRFSS estimates. This is because the FES is designed to more accurately measure fishing activity than the CHTS, not because there was a sudden rise in fishing effort. NMFS developed a calibration model to adjust historic effort estimates so that they can be accurately compared to new estimates from the FES. The new effort estimates alone do not lead to definitive conclusions about stock size or status in the past or at current. NMFS determined that the MRIP-FES data, when fully calibrated to ensure comparability among years and across states, produced the best available data for use in stock assessments and management (NMFS 2021). Golden tilefish were recently assessed (SEDAR 66) that was completed in 2021. FES landings were used in SEDAR 66. Therefore, the OFL, ABC, and ACLs that come out of the assessment will also be in FES. Blueline tilefish were last assessed back in 2017 (SEDAR 50) and used CHTS landings. For the purposes of this amendment golden tilefish uses MRIP-FES data and blueline tilefish uses MRIP-CHTS data.

1.7 What is the history of management for golden and blueline tilefish?

Snapper grouper regulations in the South Atlantic were first implemented in 1983. The reader is referred to Appendix H for the management history of the species in the Snapper Grouper FMP.

Below are amendments to the Snapper Grouper FMP addressing golden tilefish and blueline tilefish within the South Atlantic EEZ.

Snapper Grouper FMP (1983)
The FMP included provisions to prevent growth overfishing in thirteen species in the snapper grouper complex and established a procedure for preventing overfishing in other species; established minimum size limits for red snapper, yellowtail snapper, red grouper, Nassau grouper, and black sea bass; established a 4-inch trawl mesh size to achieve a 12-inch total length (TL) minimum size limit for vermilion snapper; and included additional harvest and gear limitations.

Amendment 1 (1989)
Prohibited trawls to harvest snapper grouper species south of Cape Hatteras, NC and north of Cape Canaveral, FL. Defined directed fishery as vessel with trawl gear and at least 200 pounds of snapper grouper species on board.

Amendment 4 (1992)
Prohibited fish traps, entanglement nets, and longline gear within 50 fathoms, required landing with heads and fins attached; permits - income requirement & required to exceed bag limits; and established 5 grouper aggregate. Established Total Allowable Catch (TAC) for golden tilefish and adjust the annual TAC downward by reserving a portion based on bycatch. Phase-in reduction over 3 years and established a 5,000 pound (gutted weight) golden tilefish trip limit while the directed golden tilefish quota is open, then reduce to 300 pounds.

Amendment 6 (1994)
Included tilefish species in the 5 grouper aggregate bag limit; prohibited transfer at sea for snowy grouper and golden tilefish regardless of where the fish were caught (i.e., state vs. federal waters); established 100% logbook coverage upon renewal of permit; created the *Oculina* Experimental Closed Area; and data collection needs were specified for evaluation of possible IFQ system.

Amendment 7 (1995)
Prohibited engaging in a directed fishery for tilefish in the EEZ north of Cape Canaveral, Florida, aboard a vessel that does not have a permit for snapper grouper; bottom longline gear is allowed only north of St. Lucie Inlet, FL (27°10'N. latitude).

Amendment 8 (1998)
Established the limited entry program for the commercial sector: unlimited transferable permits and 225-lb non-transferable permits.

Amendment 9 (1999)
Required vessels with longline gear aboard to only possess snowy, warsaw, yellowedge, and misty grouper, and golden, blueline and sand tilefish; specified that within the 5-fish aggregate grouper bag limit (which currently includes tilefish and excludes goliath grouper and Nassau grouper), no more than 2 fish may be gag or black grouper (individually or in combination); established Maximum Sustainable Yield (MSY) proxy for snapper grouper species (other than

Nassau and goliath) = 30% static SPR; established OY: hermaphroditic groupers = 45% static SPR and all other species = 40% static SPR.

Amendment 11 (1999)
Overfished/overfishing evaluations: Golden tilefish: overfished (couldn't update existing static SPR of 21% SPR). Council concluded measures in Amendments 7, 8 and 9 were sufficient to rebuild golden tilefish above the overfished level; and defined overfishing level for sg species other than Nassau and goliath as F>F30% static SPR, MSST = [(1-M) or 0.5 whichever is greater]*B_{MSY}. MFMT = F_{MSY}.

Amendment 13A (2004)
Extended prohibition on bottom fishing for snapper grouper species in the Oculina Experimental Closed Area and on retaining such species in or from the area.

Amendment 13C (2006)
Established a commercial quota for golden tilefish at 295,000 lbs gw, commercial trip limit for golden tilefish of 4,000 lbs gw until 75% of quota is taken then reduce to 300 lbs; do not adjust trip limit downwards unless 75% of quota is landed on or before September 1; and established a recreational bag limit of 1 golden tilefish/person/day and included within 5 grouper aggregate bag limit.

Amendment 14 (2009)
Established eight deepwater marine protected areas (MPA) in which fishing for or possession of South Atlantic snapper grouper are prohibited.

Amendment 15B (2009)
Prohibited sale of bag-limit caught snapper grouper species, reduced the effects of incidental hooking on sea turtles and smalltooth sawfish, changed the commercial permit renewal period and transferability requirements, implemented a plan to monitor and address bycatch, and established management reference points, such as MSY and OY for golden tilefish. MSY equals the yield produced by F_{MSY}. MSY and F_{MSY} are defined by the most recent SEDAR. Reduced grouper aggregate (including tilefishes) from 5 to 3.

Amendment 16 (2009)
Required possession of dehooking tools when catching snapper grouper species to reduce recreational and commercial bycatch mortality.

Amendment 17A (2011)
Required use of non-stainless steel circle hooks when fishing for snapper grouper species with hook-and-line gear and natural bait north of 28 deg. N latitude in the South Atlantic EEZ.

Amendment 17B (2011)
Defined allocations for commercial golden tilefish to be 97% commercial/3% recreational; established total ACL = 326,554 lbs whole weight or 291,566 lbs gutted weight)commercial ACL (282,819 lbs gutted weight), and recreational ACL (1,578 fish); established commercial and recreational AM; specified recreational ACL ; implemented a closure to commercial and

recreational harvest of 6 deepwater species (snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper) ; and established a longline endorsement for the commercial component of the golden tilefish fishery.

Regulatory Amendment 11 (2012)
Removed closure for deep water species (snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, and silk snapper) beyond 240 ft (73 m) implemented through Amendment 17B.

Regulatory Amendment 12 (2012)
Revised ABC based on projections from SEFSC (January 27, 2012) and established ACL = yield at 75%Fmsy when stock is at equilibrium = 625,000 lbs ww (558,036 lbs gw); revised commercial and recreational ACLs based on existing allocations: Commercial ACL = 606,250 lbs ww (541,295 lbs gw) and Recreational ACL = 3,019 fish; and Revised rec ACT and AMs; and Reopened commercial harvest under 300 lbs trip limit for 2012 fishing year.

Amendment 18B (2013)
Allocated commercial ACL between gear groups: 75% to longline and 25% to hook-and-line; and established a commercial trip limit of 4,000 for longlines and 500 pounds for hook and line (longliners not eligible to fish under hook-and-line allocationafter longline quota is landed).

Amendment 34 (2016) (Generic Accountability Measures)
Modified AMs for snapper grouper species, including golden tilefish.

Amendment 35 (2016)
Clarified regulations governing the use of Golden Tilefish Longline Endorsements.

Golden tilefish Interim Rule – effective 1/2/2018 through 7/1/2018 and 7/2/2018 through 1/3/2019 -- Reduced the golden tilefish total ACL, the commercial and recreational sector ACLs, and the quotas for the hook-and-line and longline components of the commercial sector.

Regulatory Amendment 28 (2019)
Ended overfishing of golden tilefish by reducing the ACL based on the most recent stock assessment.

Chapter 2. Proposed Actions and Alternatives

2.1 Action 1. Revise the overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield for golden tilefish

2.1.1 Alternatives

Alternative 1 (No Action) The total annual catch limit and annual optimum yield for golden tilefish are equal to the current acceptable biological catch (342,000 lbs gutted weight). The current acceptable biological catch and overfishing level makes use of recreational estimates from the Marine Recreational Information Program's Coastal Household Telephone Survey.

Preferred Alternative 2. The total annual catch limit and annual optimum yield for golden tilefish are equal to the updated acceptable biological catch level. The updated acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program's Fishing Effort Survey.

Year	OFL (lbs gw)	ABC (lbs gw)	Annual OY (lbs gw)	Total ACL (lbs gw)
2023	562,000	435,000	435,000	435,000
2024	552,000	448,000	448,000	448,000
2025	543,000	458,000	458,000	458,000
2026+	535,000	466,000	466,000	466,000

Alternative 3. The total annual catch limit and annual optimum yield for golden tilefish are equal to 95% of the updated acceptable biological catch level. The updated acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program's Fishing Effort Survey.

Year	OFL (lbs gw)	ABC (lbs gw)	Annual OY (lbs gw)	Total ACL (lbs gw)
2023	562,000	435,000	413,250	413,250
2024	552,000	448,000	425,600	425,600
2025	543,000	458,000	435,100	435,100
2026+	535,000	466,000	442,700	442,700

Alternative 4. The total annual catch limit and annual optimum yield for golden tilefish are equal to 90% of the updated acceptable biological catch level. The updated acceptable biological catch and overfishing limit are inclusive of recreational estimates from the Marine Recreational Information Program's Fishing Effort Survey.

Year	OFL (lbs gw)	ABC (lbs gw)	Annual OY (lbs gw)	Total ACL (lbs gw)
2023	562,000	435,000	391,500	391,500
2024	552,000	448,000	403,200	403,200
2025	543,000	458,000	412,200	412,200
2026+	535,000	466,000	419,400	419,400

Discussion:

A revised ACL would be specified based on the SSC's recommended ABCs and the most recent assessment. SEDAR 66 included landings data using the Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES) rather than the previously used CHTS data (see Section 1.6 for details). Per the guidance provided at 50 CFR §600.310(f)(4)(iv), the Council has chosen to specify optimum yield (OY) for golden tilefish on an annual basis and set it equal to the total ACL. All the action alternatives will result in higher ACLs than the status quo. The acceptable biological catch, total annual catch limit, and annual optimum yield would increase annually until 2026 and remain in place after 2026 until modified.

2.1.2 Comparison of Alternatives:

Alternative 1 (No Action) would no longer be based on the best scientific information available (BSIA) and, therefore, is not a viable alternative for consideration in this plan amendment because of the results from SEDAR 66 and the recommendations from the SSC. Preferred Alternative 2 through Alternative 4 would not exceed the SSC's recommended ABCs and OFLs and would be expected to result in positive biological effects to the golden tilefish stock. Preferred Alternative 2 could result in the least biological benefit to the golden tilefish stock as there would be no buffer between the SSC's recommended ABCs and the total ACLs. Biological benefits resulting from Alternatives 3 and 4 would increase as the buffer increases. Although Preferred Alternative 2 would allow the greatest amount of harvest of the action alternatives considered, it is equal to the SSC's ABC recommendation and BSIA and represents a catch level that does not result in overfishing.

2.2 Action 2. Revise sector allocations and sector annual catch limits for golden tilefish

2.2.1 Alternatives

Note: The revised sector annual catch limits in Alternatives 1 (No Action) through 2 reflect the revised total annual catch limit in Preferred Alternative 2 of Action 1. The revised total annual catch limit is based on recreational landings from the MRIP using the FES method as well as updates to commercial and headboat landings used in the latest assessment (SEDAR 66).

Alternative 1 (No Action). Retain the current recreational sector and commercial sector allocations as 3.00% and 97.00%, respectively, of the revised total annual catch limit for golden tilefish. Within the commercial sector, 25% is allocated to the hook and line (HL) component and 75% to the longline (LL) component.

Year	Total ACL= ABC	Commercial ACL (lbs gw) (97% of Total ACL)			Recreational ACL (numbers of fish) (3% of Total ACL)
		Total	HL (25%)	LL (75%)	
2023	435,000	421,950	105,488	316,462	2,326
2024	448,000	434,560	108,640	325,920	2,396
2025	458,000	444,260	111,065	333,195	2,449
2026+	466,000	452,020	113,005	339,015	2,492

Note: Recreational ACL in numbers of fish was calculated using the average weight from recreational samples in SEDAR 66 data from 2016 through 2018.

Preferred Alternative 2. Allocate 96.70% of the revised total annual catch limit for golden tilefish to the commercial sector and 3.30% of the revised total annual catch limit for golden tilefish to the recreational sector. Within the commercial sector 25% is allocated to the hook and line (HL) component and 75% to the longline (LL) component.

Year	Total ACL= ABC	Commercial ACL (lbs gw) (96.7% of Total ACL)			Recreational ACL (numbers of fish) (3.3% of Total ACL)
		Total	HL (25%)	LL (75%)	
2023	435,000	420,645	105,161	315,484	2,559
2024	448,000	433,216	108,304	324,912	2,635
2025	458,000	442,886	110,722	332,165	2,694
2026+	466,000	450,622	112,656	337,967	2,741

Note: Recreational ACL in numbers of fish was calculated using the average weight from recreational samples in SEDAR 66 data from 2016 through 2018.

Table 2.2.1.1 Differences in pounds (gw) between proposed commercial golden tilefish hook and line ACLs and average landings (2017-2021).

	Commercial Longline	Commercial Hook and Line
Average Landings 2017-2021	282,922	92,284
Proposed 2023 ACL	315,484	105,161
Difference Between Proposed ACL and Average Landings	+32,562	+12,877

Discussion:

The Council's Allocations Trigger Policy (Appendix J) states the Council will review sector allocations upon completion of a stock assessment. In addition, recreational landings estimates have been revised to adopt the new FES methodology (Section 1.6). This action allows the Council to consider how to allocate the total ACL between the commercial and recreational sectors from 2023 onwards under the revised catch levels.

The current commercial ACL is 331,740 lbs gw, and the current recreational ACL is 2,316 fish. The commercial annual catch limit is allocated between two gear sectors: 25% is allocated to the hook and line sector and 75% to the longline sector. Amendment 18B (2012) allocated 25% of the commercial ACL to the hook-and line component and 75% to the longline component. Such an allocation restored access to the resource for hook-and-line fishermen to proportions observed prior to 2006, and during periods when they have historically harvested golden tilefish (late summer to early fall). It was noted that, if the hook-and-line component regularly reached its ACL in the future, the Council would consider increasing the allocation.

The Council is only considering two allocation scenarios for golden tilefish. The update to the recreational landings stream did not substantially change the historical landings ratio between sectors. The current allocations for the recreational and commercial sectors are 3% and 97%, respectively. These allocation percentages were based on applying the formula of sector annual catch limit = ((mean landings 2006-2008)*0.5)) + ((mean landings 1986-2008)*0.5) to the landings dataset used in Snapper Grouper Amendment 17B that included recreational estimates from the Marine Recreational Information Program's Coastal Household Telephone Survey. Applying the same allocation method to data used in SEDAR 66, including recreational FES data where applicable, would result in allocations of 96.70% and 3.30% for the commercial and recreational sectors, respectively. The difference between the proposed 2023 ACL for commercial sector compared to average landings (2017-2021) shows an average annual increase of 32,562 (lbs gw) for the commercial longline component and an average annual increase of 12,877 (lbs gw) for the commercial hook and line component (Table 2.1).

The Council will need to consider National Standard 4 in all allocation actions and alternatives. National Standard 4 states: *Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable*

to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

2.2.2 Comparison of Alternatives:

Under **Alternative 1 (No Action)**, sector allocations would remain at 97 percent of the ACL for the total commercial sector and 3 percent for the recreational sector. **Preferred Alternative 2** would shift 0.3 percent to the recreational sector. Because the difference between percentages for **Alternative 1, and Alternative 2** differ little, biological effects between alternatives are not expected to differ substantially. Allocations that allow for more fish to be landed can result in increased positive social and economic effects. For the commercial sector the highest economic and social benefits result from **Alternative 1 (No Action)**. For the recreational sector the highest economic and social benefits result from **Preferred Alternative 2.**

2.3 Action 3. Modify the fishing year for commercial golden tilefish hook and line and longline components

2.3.1 Alternatives

Note: Council may choose more than one alternative.

Alternative 1 (No Action). Do not modify the commercial fishing year for golden tilefish (January 1- December 31.)

Alternative 2. Modify the fishing year for the commercial hook and line component.

Sub-Alternative 2a. Modify the fishing year to start January 15.

Sub-Alternative 2b. Modify the fishing year to start January 22.

Sub-Alternative 2c. Modify the fishing year to start February 1.

Preferred Alternative 3. Modify the fishing year for the commercial longline component.

Preferred Sub-Alternative 3a. Modify the fishing year to start January 15.

Sub-Alternative 3b. Modify the fishing year to start January 22.

Sub-Alternative 3c. Modify the fishing year to start February 1.

Discussion:

Golden tilefish are important for the market when shallow water grouper fishery is closed. In addition, the longline endorsement holders may benefit from a January 15 opening with social benefits to families at the start of the year and the likelihood of extending the fishing closer to Easter and Lent when prices are higher. The Council intends to retain the January 1 start date for the HL component of the recreational sector to allow them a "head start" for the year before the LL sector begins fishing.

2.3.2 Comparison of Alternatives:

There is not expected to be any difference in the biological impacts of **Alternative 1 (No action)** and **Alternative 2** and **Alternative 3** and associated sub-actions. Under **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** the ACL for golden tilefish would be based on the most recent stock assessment and updated MRIP estimates. Adjustments in an ACL based on updated information are necessary to ensure continuous social benefits over time. **Alternative 1 (No Action)** would not update the golden tilefish ACL based on current information and would not provide the social benefits associated with up-to-date scientific information. Under this notion, **Sub-alternative 3c** may offer the highest economic benefits followed by **Sub-alternative 3b**, and **Preferred Sub-alternative 3a** in comparison to **Alternative 1 (No Action).**

2.4 Action 4. Modify recreational accountability measures for golden tilefish.

2.4.1 Alternatives

	Recreational AMs	
	Trigger	**Accountability Measure**
Alternative 1 (No action)	• Recreational landings exceed the recreational ACL • Golden tilefish is identified as overfished; • The combined commercial and recreational ACL is exceeded in the same calendar year. **All triggers must be met.**	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Alternative 2	• Recreational landings exceed the recreational ACL	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Preferred Alternative 3	NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on January 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.	

~~Note: (*based on catch rates from the previous season).~~).

Alternative 1 (No Action). All the following triggers must be met to close the recreational fishery: recreational landings exceed the recreational ACL; golden tilefish is identified as overfished; and the combined commercial and recreational ACL is exceeded in the same calendar year. Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 2. The recreational fishery is closed when recreational landings exceed the recreational ACL. Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 3. NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on January 1

and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.

Discussion:
The intent is that in season accountability measures for golden tilefish would stay in place under all alternatives being considered.

2.4.2 Comparison of Alternatives:

To be completed

2.5 Action 5. Modify blueline tilefish recreational bag limit.

2.5.1 Alternatives

Note: Council can select more than one alternative to address bag limit modification as well as retention of blueline tilefish by captain and crew.

Alternative 1 (No Action). The current recreational blueline tilefish bag limit is 3 per person per day. Captains and crew of for-hire vessels with valid Federal South Atlantic Charter/Headboat Snapper Grouper Permits are allowed to retain bag limit quantities of all snapper grouper species during the open recreational season.

Preferred Alternative 2. Reduce recreational blueline tilefish bag limit to 2 fish per person per day.

Alternative 3. Reduce recreational blueline tilefish bag limit to 1 fish per person per day.

Preferred Alternative 4. Do not allow retention of blueline tilefish by captain and crew.

Discussion:

The Council is considering lowering the recreational bag limit to lower the chance of the sector having overages and exceeding the ACL. In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL.

2.5.1 Comparison of Alternatives:

To be completed

2.6 Action 6. Modify blueline tilefish recreational season.

2.6.1 Alternatives

Alternative 1 (No Action). Do not modify the blueline tilefish recreational season. The current recreational season is May 1-August 31.

Alternative 2. Modify blueline tilefish recreational season to May 1 through July 30.

Alternative 3. Modify blueline tilefish recreational season to June 1 through August 31.

Preferred Alternative 4. Modify blueline tilefish recreational season to May 1 through June 30.

Alternative 5. Modify blueline tilefish recreational season to July 1 through August 31.

Discussion:
The Council is modifying the recreational season to reduce recreational harvest and reduce the chance of the sector having overages and exceeding the ACL. In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL. The Council also discussed aligning the seasons of the deepwater species in order to reduce discards of tilefish.

2.6.1 Comparison of Alternatives:

To be completed

2.7 Action 7. Modify recreational accountability measures for blueline tilefish.

2.7.1 Alternatives

	Recreational AMs	
	Trigger	**Accountability Measure**
Alternative 1 (No action)	• Recreational landings exceed the recreational ACL • Blueline tilefish is identified as overfished; • The combined commercial and recreational ACL is exceeded in the same calendar year. **All triggers must be met.**	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Alternative 2	• Recreational landings exceed the recreational ACL	Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.
Preferred Alternative 3	NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on May 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.	

Alternative 1 (No Action). All the following triggers must be met to close the recreational fishery: recreational landings exceed the recreational ACL; blueline tilefish is identified as overfished; and the combined commercial and recreational ACL is exceeded in the same calendar year. Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 2. The recreational fishery is closed when recreational landings exceed the recreational ACL. Recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 3. NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on May 1 and

end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.

Discussion:

The intent is that in season accountability measures for blueline tilefish would stay in place under all alternatives being considered. Alternative 3 may be difficult due to the limited recreational landings. Projections are not likely to be very accurate if monthly landings over time are highly variable

2.7.2 Comparison of Alternatives:

To be completed

Chapter 3. Affected Environment

This section describes the affected environment in the proposed project area. The affected environment is divided into four major components:

- **Habitat environment** (Section 3.1)
- **Biological and Ecological environment** (Section 3.2)
- **Economic environment** (Sections 3.3)
- **Social environment** (Sections 3.4)
- **Administrative environment** (Section 3.5)

3.1 Habitat Environment

Information on the habitat utilized by species in the snapper grouper fishery management unit (Snapper Grouper FMU) and managed through the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) is included in Volume II of the Fishery Ecosystem Plan (FEP; SAFMC 2009) and the FEP Dashboard (under revision) which are incorporated here by reference. South Atlantic Fishery Management Council (Council) designated essential fish habitat (EFH) and EFH-Habitat Areas of Particular Concern (HAPC) are presented in the SAFMC User Guide and spatial representations of these and other habitat related layers are in within the Council's SAFMC Atlas[2].

3.1.1 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)). EFH for species in the Snapper Grouper FMU 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 600 ft (but to at least 2000 ft for wreckfish) where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for larval survival and growth up to and

[2] https://myfwc.maps.arcgis.com/apps/webappviewer/index.html?id=961f8908250a404ba99fac3aa37ac723

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

For specific life stages of estuarine dependent and nearshore snapper grouper species, EFH includes areas inshore of the 100-foot 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.

3.1.2 Habitat Areas of Particular Concern

EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper-grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; nearshore 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; and Council-designated Artificial Reef Special Management Zones (SMZs). Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, post-larval, juvenile, and adult stages).

EFH-HAPCs for golden tilefish includes irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300 meters are HAPC. Golden tilefish are generally found in 80-540 meters, but most commonly found in 200-meter depths.

EFH-HAPC for blueline tilefish includes irregular bottom habitats along the shelf edge in 45-65 meters depth; shelf break; or upper slope along the 100-fathom contour (150-225 meters); hardbottom habitats characterized as rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, or rocky reefs in the South Atlantic Bight; and the Georgetown Hole (Charleston Lumps) off Georgetown, SC.

EFH-HAPCs for the snapper grouper complex include the following deepwater marine protected areas (MPAs) as designated in Snapper Grouper Amendment 14: Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Charleston Deep Artificial Reef MPA, Georgia MPA, North Florida MPA, St. Lucie Hump MPA, and East Hump MPA.

The Council established the special management zone (SMZ) designation process in 1983 in the Snapper Grouper FMP, and SMZs have been designated in federal waters off North Carolina, South Carolina, Georgia, and Florida since that time. The purpose of the original SMZ designation process, and the subsequent specification of SMZs, was to protect snapper grouper populations at the relatively small, permitted artificial reef sites and "create fishing opportunities that would not otherwise exist." Thus, the SMZ designation process was centered around

protecting the relatively small habitats, which are known to attract desirable snapper grouper species.

Similarly, in the Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1; SAFMC 2010), the Council designated EFH areas and EFH-HAPCs under the Snapper Grouper FMP. Under the Magnuson-Stevens Act, FMPs are required to describe and identify EFH and to minimize the adverse effects of fishing on such habitat to the extent practicable. An EFH-HAPC designation adds an additional layer to the EFH designation. Under the Snapper Grouper FMP, EFH-HAPCs are designated based upon ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of habitat type. The Council determined in CE-BA 1 that the Council-designated SMZs met the criteria to be EFH-HAPCs for species included in the Snapper Grouper FMP. Since CE-BA 1, the Council has designated additional SMZs in the Snapper Grouper FMP including Spawning SMZs. The SMZ and EFH-HAPC designations serve similar purposes in pursuit of identifying and protecting valuable and unique habitat for the benefit of fish populations, which are important to both fish and fishers. Therefore, the Council determined that a designated SMZ meets the criteria for an EFH-HAPC designation, and the Council intends that all SMZs designated under the Snapper Grouper FMP also be designated as EFH-HAPCs under the Snapper Grouper FMP.

3.2 Biological and Ecological Environment

The waters off the South Atlantic coast are home to a diverse population of fish. The Snapper Grouper FMU 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 amendment. The specific components of the ecological environment affected by actions in this amendment include red porgy, other affected species, and protected species. These components are described in detail in the following sections.

3.2.1 Golden Tilefish

3.2.2.1 Life History

Life history, biological characteristics, and stock status information for golden tilefish may be found the Southeast Data, Assessment, and Review (SEDAR) report, SEDAR 66 Update (2021), which is available on the SEDAR web site http://www.sefsc.noaa.gov/sedar/ and is hereby incorporated by reference (see Section 3.2.3 for more information on the SEDAR process). Golden tilefish are distributed throughout the Western Atlantic, occurring as far north as Nova Scotia, to southern Florida, and in the eastern Gulf of Mexico (Robins and Ray 1986). According to Dooley (1978), golden tilefish occurs at depths of 80-540 meters (263-1,772 feet). Robins and Ray (1986) report a depth range of 82-275 meters (270-900 feet) for golden tilefish. It is most

commonly found at about 200 meters (656 feet), usually over mud or sand bottom but, occasionally, over rough bottom (Dooley 1978). Maximum reported size is 125 centimeters (50 inches) total length and 30 kilograms (66 pounds) (Dooley 1978; Robins and Ray 1986). Maximum reported age is 40 years (Harris et al. 2001). Radiocarbon aging indicates golden tilefish may live for at least 50 years (Harris, South Carolina Department of Natural Resources, personal communication). Golden tilefish spawn off the southeast coast of the United States (U.S.) from March through late July, with a peak in April (Harris et al. 2001). Grimes et al. (1988) indicate peak spawning occurs from May through September in waters north of Cape Canaveral. Golden tilefish primarily prey upon shrimp and crabs, but also eat fishes, squid, bivalves, and holothurians (Dooley 1978).

3.2.2.2 Stock Status

The Southeast Data, Assessment, and Review (SEDAR) process is a cooperative Fishery Management Council initiative to improve the quality and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and U.S. Caribbean. SEDAR seeks improvements in the scientific quality of stock assessments, constituent and stakeholder participation in assessment development, transparency in the assessment process, and a rigorous and independent scientific review of completed stock assessments.

SEDAR is organized around three public workshops. First is the Data Workshop, during which fisheries monitoring and life history data are reviewed and compiled. Second is the Assessment Workshop, which may be conducted via a workshop and several webinars, during which assessment models are developed and population parameters are estimated using the information provided from the Data Workshop. Third and final is the Review Workshop, during which independent experts review the input data, assessment methods, and assessment products. The completed assessment, including the reports of all three workshops and all supporting documentation, are then forwarded to the Council's Scientific and Statistical Committee (SSC). The SSC considers whether the assessment represents the best available science and develops fishing level recommendations for Council consideration.

The South Atlantic stock of golden tilefish was first assessed through the Southeast Data, Assessment, and Review (SEDAR) in 2004. The benchmark assessment for golden tilefish, SEDAR 4, was completed in 2004 with an assessment period 1961-2002 (SEDAR 2004). SEDAR 25 was a standard assessment completed in 2011 with an assessment period spanning 1962-2010 (SEDAR 2011) and several important changes to input parameters (e.g., natural mortality (M), catchability or efficiency of the fishery (h), SSB units). Current management of South Atlantic golden tilefish is based on an update of SEDAR 25 completed in 2016 with an assessment period of 1962-2014 (SEDAR 2016).

The SSC reviewed the golden tilefish stock assessment (SEDAR 66 2020) at their April/May 2021 meeting. The SSC found that the assessment addressed the terms of reference appropriately, was conducted using the best scientific information available, was adequate for determining stock status and supporting fishing level recommendations and addressed uncertainty consistent with expectations and available information. The SSC applied the ABC Control Rule and recommended the following ABCs and OFLs for golden tilefish.

Recommendations are based on landings and expressed in total removals. Landings recommendations have been calculated to account for dead discards.

This amendment addresses the SEDAR 66 operational assessment for golden tilefish, which was completed in 2020, and includes recreational landings estimates using the Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES). Revised catch levels are specified based on the Scientific and Statistical Committee (SSC)'s recommended acceptable biological catch (ABC) and this most recent assessment.

The Council received the results of the assessment and the SSC's recommendations for the overfishing limit (OFL) and ABC at their June 2021 meeting. The SSC determined the stock is no longer experiencing overfishing, but there is a high degree of uncertainty in the stock status determination since the stock is being fished at or close to maximum sustainable yield (MSY). The Council directed staff to begin work on a plan amendment to adjust catch levels based on the SSC recommendations and SEDAR 66.

3.2.1.3 Landings

Commercial

Commercial landings of South Atlantic golden tilefish have consistently declined since 2015 (Table 3.2.1.3.1).

Table 3.2.1.3.1. South Atlantic golden tilefish landings and ACLs in lbs ww, 2015-2020.

Year	Commercial Longline Landings	Commercial Hook and Line Landings	Total Landings (lbs ww)	Total ACL	% ACL
2020	273,570	70,552	344,122	314,310	109%
2019	306,409	61,407	367,817	314,310	117%
2018	247,349	54,649	301,998	314,310	96%
2017	427,586	110,045	537,631	541,295	99%
2016	421,513	111,816	533,329	541,295	99%
2015	389,244	143,872	533,116	541,295	98.4%

Sources: SEFSC Commercial ACL Database [April 5, 2021]

Recreational
Recreational landings of South Atlantic golden tilefish have exceed the ACL in all of the years reviewed over the time series (Table 3.2.1.3.2). Landings are monitored in numbers of fish.

Table 3.2.1.3.2 South Atlantic golden tilefish recreational landings in numbers of fish.

Year	Landings (fish)
2015	4,014
2016	14,767
2017	3,215
2018	9,079
2019	43,023
2020	6,249
2021	8,221

Sources: SEFSC MRIP FES Recreational ACL Database [April 2022]

3.2.2 Blueline Tilefish

3.2.2.1 Life History

Blueline tilefish, *Caulolatilus microps*, occurs in the Western Atlantic Ocean, North Carolina to southern Florida and Mexico, including the northern (and probably eastern) Gulf of Mexico (Dooley 1978). Blueline tilefish are found along the outer continental shelf, shelf break, and upper slope on irregular bottom with ledges or crevices, and around boulders or rubble piles in depths of 30-236 m (98-774 ft) and temperatures ranging from 15 to 23° C (59-73.4º F) (Ross 1978; Ross and Huntsman 1982; Robins and Ray 1986; Parker and Mays 1998). Maximum reported size is 90 cm (35.4 in) FL (SEDAR 32 2013) and 7 kg (15 pounds [lbs]) (Dooley 1978). Maximum reported age is 43 years (SEDAR 32 2013). The SEDAR group estimated the natural mortality rate to be 0.1 (SEDAR 32 2013). Spawning occurs at night, from March to October, with a peak in May (SEDAR 32 (2013) using information from Harris et al. (2004)). Blueline tilefish primarily feeds on benthic invertebrates and fishes (Dooley 1978).

Blueline Tilefish Life History
An Overview

- Extend from North Carolina to southern Florida and Mexico, including the Gulf of Mexico
- Waters ranging from 98-774 feet
- The spawning season extends from March to October, peaking May.
- Age for oldest fish discovered is 43 years.

Several species in the snapper grouper fishery management unit, though they occupy the same time and space in the reef environment, occupy different trophic niches. For example, blueline tilefish consume a higher diversity of organisms and prey that is more closely associated with the bottom (Bielsa and Labinski 1987). In contrast, the diet of snowy grouper is more specialized and prey items are found higher in the water column. It has been suggested that the different trophic niches reduces the interspecific competition for food items between these two species (Bielsa and Labinski 1987).

Snapper grouper species that reside in deepwater could be affected by the action. In addition to blueline tilefish, snapper grouper species most likely to be affected by the proposed actions includes many species that occupy the same habitat at the same time. Therefore, snapper grouper species are likely to be caught when regulated since they will be incidentally caught when fishermen target other co-occurring species.

3.2.2.2 Stock Status

Blueline tilefish was assessed in November 2013 SEDAR 32, and the National Marine Fisheries Service (NMFS) determined blueline tilefish was undergoing overfishing and overfished. The management area in the stock assessment was defined such that landings from Rhode Island to Florida were used.

In April 2014 an emergency rule was effective for one year to reduce overfishing. Regulatory Amendment 21 changed the minimum stock size threshold and blueline tilefish was no longer overfished. Actions in Amendment 32 decreased the ACLs to end overfishing. The ACL equaled 98% of acceptable biological catch (ABC) to account for landings north of North Carolina. At the time, an examination of the landings indicated that approximately 2% of blueline tilefish landings originated in the Mid-Atlantic region, north of the North Carolina/Virginia border. The amendment established a commercial trip limit of 100 pounds (lbs) gutted weight (gw), and a vessel limit of 1/vessel/day during the May through August recreational open season. The South Atlantic Fishery Management Council's (South Atlantic Council) goal was to align the recreational season with that for snowy grouper since the two species are frequently caught together and compatible seasons would reduce regulatory discards and associated release mortality, while maximizing access to the fishery for fishermen in the region.

Actions in Regulatory Amendment 25 increased the ACLs based on a revised ABC recommendation from the South Atlantic Council's Scientific and Statistical Committee (SSC). The ACL equaled 78% of the ABC to account for landings from the Greater Atlantic Region.

This percent was based on the ratio of landings between the South Atlantic and the Greater Atlantic region from 2011-2014. The framework amendment increased the commercial trip limit to 300 lbs gw and recreational bag limit to 3/fish/person/day in a May through August recreational open season.

Following SEDAR 50, NMFS determined that blueline tilefish south of Cape Hatteras, North Carolina, was not undergoing overfishing and was not overfished. The status of the stock was unknown north of Cape Hatteras due to insufficient data. SEDAR 50 used the conclusion from a stock ID workshop that blueline tilefish constitute a single population throughout the U.S. geographic range and concluded that the main stock assessment effort proceed with models including removals restricted to areas between the Council/Gulf of Mexico Fishery Management Council boundary and Cape Hatteras, North Carolina. The Assessment Panel also proceeded with separate efforts to investigate the available data for the region north of Cape Hatteras, North Carolina, to provide advice for management of blueline tilefish in that region.

In December 2017 the Mid-Atlantic Fishery Management Council incorporated blueline tilefish as a managed species in the Tilefish Fishery Management Plan and established blueline tilefish management measures, including an ACL setting process, sector allocations, possession limits, fishing season, permitting, and reporting requirements.

In February 2020, the final rule for Regulatory Amendment 27 implemented a commercial trip limit of 100 lbs gw from January 1 through April 30 and 300 lbs gw from May 1 through December 31. The Council reasoned that a 100 lbs gw trip limit of blueline tilefish from January through April would help reduce snowy grouper discards while an increase to a 300 lbs gw trip limit at the beginning of May would allow fishermen in the northern portion of the South Atlantic Council's area of jurisdiction to have greater access to the resource and optimize their harvest. In August 2020, the final rule for Abbreviated Framework Amendment 3 increased the ACL. The ACL equaled the ABC. The ABC was based on the sum of the ABC from areas south and north of Cape Hatteras, North Carolina. The abbreviated framework amendment includes the following discussion on the choice of ACL equal to ABC: "Setting the ACL below the ABC in Amendment 32 and Regulatory Amendment 25 were intended as a temporary measure to account for landings outside the South Atlantic Council's jurisdiction; hence, the purpose was not to account for management uncertainty related to fishing activity within the South Atlantic Council's area of jurisdiction. Furthermore, blueline tilefish landings that occurred north of the North Carolina/Virginia border prior to 2017 were accounted for in the recommended catch levels from SEDAR 50 (2017)."

An application providing an overview of the blueline tilefish fishery, including management history, landings, and assessment information, can be found here: https://safmc-shinyapps.shinyapps.io/SA_FisheryDataBluelineTilefish/

In the last six years, landings of blueline tilefish in the South Atlantic region have often exceeded the sector and total ACL. The National Standard Guidelines contain the following language: "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 reevaluated, and modified if necessary, to improve its performance and effectiveness." 50 C.F.R. § 310(g)(7).

3.2.1.3 Landings

Recreational
Recreational landings of South Atlantic blueline tilefish have exceed the ACL in all of the years reviewed over the time series (Table 3.2.1.3.1). The most recent stock assessment for blueline tilefish (SEDAR 50) uses MRIP-CHTS landings. For the purposes of this amendment all analyses will use blueline tilefish MRIP-CHTS landings.

Table 3.2.1.3.1 South Atlantic blueline tilefish recreational landings and ACLs in whole weight.

Year	Landings (lbs ww)	ACL	% of ACL	Date of Closure
2015	40,888	17,291	254.8	June 10, 2015
2016	185,998	87,277	197.4	
2017	171,455	87,277	176.4	
2018	110,463	87,277	134	
2019	110,116	87,277	126	
2020	402,789	116,820	336	

Sources: SEFSC MRIP CHTS Recreational ACL Database [April 2022]

Table 3.2.1.3.2. South Atlantic blueline tilefish recreational landings broken up by state and north and south of Cape Hatteras, NC* landings are in pounds whole weight.

Year	FL East Coast	North Carolina: North Cape Hatteras	North Carolina: South Cape Hatteras	Total
2015	34,838	2,071	3,979	40,888
2016	28,381	136,338	21,279	185,998
2017	83,510	17,881	70,064	171,455
2018	31,104	68,721	10,638	110,463
2019	21,025	61,116	27,975	110,116
2020	30,454	333,791	38,544	402,789
2021	22,706	136,304	30,214	189,224

Sources: SEFSC MRIP CHTS – Mike Larkin Pers. Comm.

3.2.3 Bycatch

See the Bycatch Practicability Analysis **(Appendix E)** for detailed descriptions of bycatch when fishing for golden tilefish or blueline tilefish.

3.2.4 Other Species Affected

See the Bycatch Practicability Analysis (Appendix G) for more information on bycatch and discards.

3.2.5 Protected Species

NMFS manages marine protected species in the Southeast region under the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). There are 29 ESA-listed species or distinct population segments (DPS) of marine mammals, sea turtles, fish, and corals managed by NMFS that may occur in federal waters of the South Atlantic or Gulf of Mexico. There are 91 stocks of marine mammals managed within the Southeast region plus the addition of the stocks such as North Atlantic right whales (NARW), and humpback, sei, fin, minke, and blue whales that regularly or sometimes occur in Southeast region managed waters for a portion of the year (Hayes et al. 2017). All marine mammals in U.S. waters are protected under the MMPA. The MMPA requires that each commercial fishery be classified by the number of marine mammals they seriously injure or kill. NMFS's List of Fisheries (LOF)[3] classifies U.S. commercial fisheries into three categories based on the number of incidental mortality or serious injury they cause to marine mammals.

Five of the marine mammal species (sperm, sei, fin, blue, and NARW) protected by the MMPA, are also listed as endangered under the ESA. In addition to those five marine mammals, six species or DPSs of sea turtles [green (the North Atlantic DPS and the South Atlantic DPS), hawksbill, Kemp's ridley, leatherback, and the Northwest Atlantic DPS of loggerhead]; nine species or DPSs of fish (the smalltooth sawfish; five DPSs of Atlantic sturgeon; Nassau grouper; oceanic whitetip shark, and giant manta ray); and seven species of coral (elkhorn coral, staghorn coral, rough cactus coral, pillar coral, lobed star coral, mountainous star coral, and boulder coral) are also protected under the ESA and occur within the action area of the snapper grouper fishery. Portions of designated critical habitat for NARW, the Northwest Atlantic DPS of loggerhead sea turtles, and *Acropora* corals occur within the Council's jurisdiction.

NMFS completed a formal consultation and resulting biological opinion (Bi-Op) on the conservation regulations under the ESA and the authorization of the South Atlantic snapper grouper fishery in federal waters under the Magnuson-Stevens Act, including the fishery managed by the Snapper Grouper FMP, on threatened and endangered species and designated critical habitat dated December 1, 2016. NMFS concluded that the activities addressed in the consultation are not likely to jeopardize the continued existence of any threatened or endangered species.

Since completing the December 2016 Bi-Op, NMFS published several final rules that listed additional species and designated critical habitat. NMFS has reinitiated formal consultation to address these listings and concluded the authorization of the South Atlantic snapper grouper fishery in federal waters during the re-initiation period will not violate ESA Sections 7(a)(2) or 7(d). For summary information on the protected species that may be adversely affected by the

[3] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-protection-act-list-fisheries/

snapper grouper fishery and how they are affected refer to Section 3.2.5 in Vision Blueprint Regulatory Amendment 27 to the Snapper Grouper FMP (SAFMC 2019a).

3.3 Description of the Economic Environment

A description of the golden tilefish and blueline tilefish stocks affected by the actions considered in this amendment is provided in Section 3.3, and further information on these stocks can be found in Snapper Grouper Regulatory Amendment 27 (SAMFC 2019), and Snapper Grouper Abbreviated Framework Amendment 3 (SAMFC 2020).

3.3.1 Commercial Sector

The focus of the actions in this amendment for blueline tilefish is the recreational sector. Therefore, a description of the economic environment for the blueline tilefish commercial sector is not provided here. Information regarding the blueline tilefish commercial sector may be found in the "Vision Blueprint Commercial Regulatory Amendment 27 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region" (SAFMC 2019).

Permits

Golden tilefish (*Lopholatilus chamaeleonticeps*) are one of 55 species managed by the South Atlantic Fishery Management Council's Snapper Grouper Fishery Management plan. Any fishing vessel that harvests and sells any of the snapper grouper species from the South Atlantic Exclusive Economic Zone (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. As shown in **Table 3.3.1.1**, the number of permits that were valid at any point in a given year decreased steadily from 2016-2020. There were approximately 2% fewer valid permits in 2020, relative to 2016.

Table 3.3.1.1 Number of valid South Atlantic snapper grouper permits, 2016-2020.

Year	Unlimited Permits	225-lb Trip-limited	Total Permits
2016	565	116	681
2017	554	114	668
2018	549	110	659
2019	543	108	651
2020	535	104	639

Source: NMFS SERO Sustainable Fisheries (SF) Access permits database.

Vessels

The information in **Tables 3.3.1.2** and **3.3.1.3** describes the landings and revenue for vessels that harvested South Atlantic golden tilefish in each year from 2016-2020, as well as their revenue from other species. Vessel participation decreased by 16% in 2017 relative to 2016, and remained relatively stable since. Landings of golden tilefish varied from 2016-2020, but fell by 37% in 2020 relative to 2016. Landings of jointly caught species on golden tilefish trips also fell by 67% in 2020 relative to 2016. On average from 2016-2020, golden tilefish accounted for only 18% of total landings and revenue by vessels harvesting South Atlantic golden tilefish.

Table 3.3.1.2 Number of vessels, trips, and landings (lbs gutted weight (gw)) by year for South Atlantic golden tilefish.

Year	# of vessels that caught GTF (> 0 lbs gw)	# of trips that caught GTF	GTF landings (lbs gw)	Other species' landings jointly caught w/ GTF	# of SATL trips that only caught other species	Other species' landings on trips w/o GTF	All species landings on Gulf trips (lbs gw)
2016	119	829	524,147	394,254	3,611	2,288,173	308,234
2017	103	858	516,435	358,358	3,034	2,339,638	100,797
2018	103	586	290,284	218,412	3,589	1,410,211	190,142
2019	103	590	352,072	192,934	3,439	1,614,324	218,550
2020	102	565	329,689	128,408	3,495	1,466,412	123,075
Average	106	686	402,525	258,473	3,434	1,823,752	188,160

Source: SEFSC-Social Science Research Group (SSRG) Socioeconomic Panel (Jan 2022 version)

Overall dockside revenue of golden tilefish declined from 2016-2020. Golden tilefish dockside revenue declined by 40% in 2020 relative to 2016. Revenue from jointly caught species on golden tilefish trips also declined by 67% in 2020 relative to 2016. On average from 2016-2020, golden tilefish accounted only for only 22% of total revenue by vessels harvesting South Atlantic golden tilefish.

Table 3.3.1.3. Number of vessels and ex-vessel revenues by year (2020 $) for South Atlantic golden tilefish.

Year	# of vessels that caught GTF (> 0 lbs gw)	Dockside revenue from GTF	Dockside revenue from 'other species' jointly caught w/ GTF	Dockside revenue from 'other species' caught on trips w/o GTF	Dockside revenue from 'all species' caught on Gulf trips	Total dockside revenue	Average total dockside revenue per vessel
2016	119	$2,459,299	$1,494,934	$6,394,926	$1,059,819	$11,408,978	$95,874
2017	103	$2,467,773	$1,402,376	$4,485,611	$248,930	$8,604,691	$83,541
2018	103	$1,452,739	$869,038	$5,109,845	$503,916	$7,935,538	$77,044
2019	103	$1,633,789	$770,276	$5,606,993	$645,490	$8,656,548	$84,044
2020	102	$1,466,412	$496,055	$4,965,189	$308,941	$7,236,597	$70,947
Average	106	$1,896,003	$1,006,536	$5,312,513	$553,419	$8,768,470	$82,721

Source: SEFSC-Social Science Research Group (SSRG) Socioeconomic Panel (Jan 2022 version)

Estimates of economic returns are not directly available for the golden tilefish commercial sector in the South Atlantic. The most recent analysis that calculated estimates of economic returns for South Atlantic commercial fishing vessels was Liese (pers. comm. 2022). Liese (pers. comm. 2022) calculated economic returns for South Atlantic Snapper grouper vessels as well as other segments of interest (SOI). In most cases, these SOIs are at the species or species group. Liese (pers. comm. 2022) produced estimates for a 2018 South Atlantic FMP deep-water fishery SOI, which consists of all logbook trips by permitted vessels where at least one pound of deep-water fish (snapper, tilefish, and grouper species) managed by the South Atlantic Snapper-Grouper FMP was landed in 2018 using any gear type. This SOI's estimates can be used as a proxy for golden tilefish estimates. These estimates are specific to economic performance in the years 2014-2018. The analysis also provides average estimates of economic returns across 2014-2018, which are the most useful for current purposes. Estimates in the analysis are based on a combination of Southeast Coastal logbook data, a supplemental economic add-on survey to the logbooks, and an annual economic survey at the vessel level. The economic surveys collect data on gross revenue, variable costs, fixed costs, as well as some auxiliary economic variables (e.g., market value of the vessel). The analysis provides estimates of critical economic variables for the commercial sector in the South Atlantic deepwater fishery. In addition, estimates are provided at the trip level and the annual vessel level, of which the latter are most important for current purposes. Findings from the analysis are summarized below.

From an economic returns perspective, the two most critical results at the trip level are the estimates of trip net cash flow and trip net revenue. Trip net cash flow is trip revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and purchases of annual allocation from other allocation holders. Thus, this estimate represents the amount of cash generated by a typical South Atlantic deepwater trip over and above the cash cost of taking the trip (i.e., variable costs of the trip) and is a proxy for producer surplus (PS) at the trip level. Trip net revenue is trip revenue minus the costs for fuel, bait, ice, groceries, miscellaneous, hired crew, and the opportunity cost of owner's time as captain. By including opportunity cost of the owner's time

and excluding purchases of annual allocation, trip net revenue is a measure of the commercial fishing trip's economic profit. **Table 3.3.1.4** illustrates the economic "margins" generated on South Atlantic deepwater fishery trips, i.e., trip net cash flow and trip net revenue as a percentage of trip revenue. As shown in this table, 47.5% of the average revenues generated on South Atlantic Deepwater Fishery trips were used to pay for crew labor costs. Fuel/supplies costs accounted for a further 24% of revenues and 42% of revenue is cash flow back to the owner(s). The margin associated with trip net revenue was lower at about 29%, as it accounts for the value of an owner operator's time. Thus, trip cash flow and trip net revenue were both positive on average from 2014 -2018, generally indicating that South Atlantic deep-water trips were profitable during this time.

3.3.1.4. Economic characteristics of South Atlantic Deepwater Fishery trips 2014-2018 (2020$).

	2014	2015	2016	2017	2018	Average
Number of Observations	418	472	541	487	436	
Response Rate (%)	83%	86%	93%	95%	96%	
Trips						
Owner-Operated	81%	84%	76%	63%	61%	73.0%
Fuel Used per Day at Sea (gallons/day)	42	44	47	50	45	46
Total Revenue	100%	100%	100%	100%	100%	100%
Costs (% of Revenue)						
Fuel	12.9%	10.5%	8.9%	8.9%	11.1%	10.5%
Bait	5.3%	4.4%	5.8%	5.2%	5.0%	5.1%
Ice	1.7%	1.7%	2.0%	1.9%	1.6%	2%
Groceries	3.8%	2.8%	4.1%	3.4%	3.9%	3.6%
Miscellaneous	3.0%	3.3%	2.9%	3.2%	2.3%	2.9%
Hired Crew	35.7%	33.4%	32.9%	34.7%	34.6%	34.3%
IFQ Purchase	0%	0%	0%	0%	0%	0%
Owner-Captain Time	13.0%	13.7%	15.4%	10.6%	12.6%	13.2%
Trip Net Cash Flow	38%	44.7%	43.5%	42.6%	41.5%	42%
Trip Net Revenue	25%	29.7%	28.1%	32.0%	28.8%	29%
Labor - Hired & Owner	49%	47.6%	48.3%	45.4%	47.2%	47.5%
Fuel & Supplies	27%	22.7%	23.6%	22.6%	24.0%	24%
Input Prices						
Fuel Price (per gallon)	$4.07	$3.08	$2.30	$2.41	$2.92	$2.93
Hire Crew Wage (per crew-day)	$346	$401	$356	$328	$284	$338
Productivity Measures						
Landings/Fuel Use (lbs./gallon)	8.9	8.2	6.7	6.7	6.4	7
Landings/Labor Use (lbs./crew-day)	172	185	166	162	140	163

Table 3.3.1.5 provides estimates of the important economic variables at the annual level for all vessels that had South Atlantic deep-water fishery landings from 2014-2016. Similar to the trip level, the three of the most important estimates of economic returns are net cash flow, net revenue from operations, as well as economic return on asset value. Of these measures, net revenue from operations most closely represents economic profits to the owner(s). Net cash flow is total annual revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, loan payments, and purchases of annual allocation. Net revenue from operations is total annual revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and the opportunity cost of an owner's time as captain as well as the vessel's depreciation. Economic return on asset value is calculated by dividing the net revenue from operations by the vessel value. As shown in **Table 3.3.1.7**, net cash flow and net revenue from operations at the annual vessel level were both positive from 2014-2016, generally indicating that South Atlantic snapper grouper vessels in the commercial sector were profitable. Specifically, net cash flow and net revenue from operations averaged 19 % and 4%, respectively.

Table 3.3.1.5. Economic characteristics of South Atlantic Deepwater Fishery vessels from 2014-2018 (2020$).

	2014	2015	2016	2017	2018	Average
Number of Observations	34	50	42	50	47	
Response Rate (%)	51%	79%	72%	78%	80%	
Vessels						
Owner-Operated	82%	90%	83%	73%	70%	80%
For-Hire Active	24%	15%	10%	12%	8%	14%
Vessel Value	$101,773	$85,546	$116,914	$125,563	$112,721	$108,503
Total Revenue	100%	100%	100%	100%	100%	100%
Costs (% of Revenue)						
Fuel	13.7%	11.0%	10.3%	10.2%	12.0%	11.4%
Other Supplies	13.9%	15.2%	15.6%	12.2%	12.2%	13.8%
Hired Crew	30.1%	25.5%	31.7%	32.4%	28.7%	29.7%
Vessel Repair & Maintenance	11.1%	14.0%	14.1%	11.9%	20.2%	14.3%
Insurance	1.4%	1.6%	2.0%	1.4%	2.7%	1.8%
Overhead	6.2%	8.8%	7.4%	6.1%	8.8%	7.5%
Loan Payment	1.5%	2.8%	3.1%	3.3%	1.5%	2.4%
IFQ Purchase	0.0%	0.2%	0.0%	0.4%	0.0%	0.1%
Owner-Captain Time	12.7%	12.5%	13.6%	11.2%	11.7%	12.3%
Net Cash Flow	22.0%	20.9%	15.7%	22.1%	13.9%	19.0%
Net Revenue for Operations	7.0%	6.8%	−0.7%	8.8%	−3.2%	4.0%
Depreciation	4.4%	4.6%	6.0%	5.7%	6.8%	5.5%
Fixed Costs	19.0%	24.4%	23.4%	19.4%	31.7%	24.0%
Labor - Hired & Owner	43.0%	38.0%	45.3%	43.6%	40.4%	42.0%
Fuel & Supplies	28.0%	26.2%	25.9%	22.4%	24.3%	25.0%
Economic Return (on asset value)	7.5%	7.5%	−0.6%	7.6%	−2.3%	3.9%

Dealers

The information in **Table 3.3.1.6** illustrates the purchasing activities of dealers that bought golden tilefish landings from vessels from 2016 through 2020. The total number of dealers purchasing golden tilefish varied from 2016-2020. In 2020, the total number of dealers purchasing golden tilefish was approximately 17% greater relative to 2016. However, there was a decline in the total number of purchasing dealers increased in 2017 and 2018. Total value of golden tilefish purchases by dealers declined overall between 2016 and 2020. Purchases of golden tilefish landings decreased by 34% in 2020, relative to 2016. Counter to the trend in the number of golden tilefish dealers, the average value of golden tilefish purchases per dealer declined by 48% from 2016-2019.

The overall value of other species purchases increased by 16% in 2020, relative to 2016. The average value of other species purchase per dealer declined by about 21% in 2020, relative to 2016. Overall, golden tilefish made up only approximately 3% of total purchases by golden tilefish dealers, indicating that there is a very low financial dependency on golden tilefish landings.

Table 3.3.1.6. Dealer statistics for dealers that purchased golden tilefish landings by year, 2016-2020. All dollar estimates are in 2020$.

Year	Number Dealers	Statistic	Tilefish Purchases	Other Species Purchases	Total Purchases
2016	48	Maximum	$499,769	$5,805,837	$5,805,837
		Total	$2,556,712	$60,265,429	$62,822,140
		Mean	$53,265	$31,769	$32,299
2017	47	Maximum	$335,089	$6,295,487	$6,295,487
		Total	$2,597,311	$58,351,928	$60,949,238
		Mean	$55,262	$32,221	$32,804
2018	43	Maximum	$198,541	$4,898,624	$4,898,624
		Total	$1,500,964	$46,016,968	$47,517,932
		Mean	$34,906	$24,348	$24,582
2019	49	Maximum	$296,854	$8,235,082	$8,235,082
		Total	$1,873,543	$66,538,560	$68,412,103
		Mean	$37,471	$29,377	$29,552
2020	56	Maximum	$267,824	$3,077,877	$3,077,877
		Total	$1,697,307	$69,645,810	$71,343,117
		Mean	$27,825	$24,981	$25,041

Source: SERO ALS Data (2022)

Imports

Imports of foreign seafood products compete in the domestic seafood market, and have in fact dominated many segments of the domestic 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 can have downstream effects on the local fish market. At the harvest level, imports can affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production, 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 that directly compete with domestic harvest of snappers and groupers, including the species in this amendment.

According to NMFS' foreign trade data,[4] snapper are not exported from the U.S. to other countries. Thus, the following describes the imports of fresh and frozen snapper products, which directly compete with domestic harvest of snapper species. All monetary estimates are in 2020 dollars. As shown in **Table 3.3.1.7**, imports of fresh snapper products were 30.6 million lbs product weight (pw) in 2016. They peaked at 32.8 million lbs pw in 2020, an increase of 6% relative to 2016. Total revenue from snapper imports increased from $97.3 million (2020 dollars) in 2016 to a five-year high of $110.7 million in 2019. The average price per pound for fresh snapper products was $3.24 from 2016-2020. Imports of fresh snapper products primarily originated in Mexico or Central America and primarily entered the U.S. through the port of Miami.

Table 3.3.1.7. Annual pounds and value of fresh snapper imports and share of imports by country, 2016-2020.

	2016	2017	2018	2019	2020
Pounds of fresh snapper imports (product weight, million pounds)	30.6	31.2	30.5	32.8	32.4
Value of fresh snapper imports (millions $, 2020$)	97.3	95.0	99.3	110.7	108.9
Average price per lb (2020$)	$3.18	$3.05	$3.25	$3.38	$3.36
Share of Imports by Country					
Mexico	32.7	35.8	32.5	34.9	40.4
Nicaragua	15.6	15.4	17.0	14.6	15.1
Panama	14.0	14.8	16.6	13.9	11.0
All others	37.6	33.9	33.9	36.6	33.5

Source: NOAA Foreign Trade Query Tool, accessed 05/14/22

As shown in **Table 3.3.1.8**, imports of frozen snapper products were 14.4 million pw in 2016. They peaked at 15.9 million lbs pw in 2020, an increase of 10% relative to 2016. Total revenue from snapper imports increased from $40.9 million (2020 dollars) in 2016 to a five-year high of $46.4 million in 2019. The average price per pound for fresh snapper products was $2.94 from 2016-2020. Imports of snapper products primarily originated in Mexico or Central America and primarily entered the U.S. through the port of Miami.

[4] https://www.fisheries.noaa.gov/foss

Table 3.3.1.8. Annual pounds and value of frozen snapper imports by country, 2016-2020.

	2016	2017	2018	2019	2020
Pounds of frozen snapper imports (product weight, million pounds)	14.4	12.8	12.2	11.4	15.9
Value of frozen snapper imports (millions $, 2020$)	40.9	36.7	36.1	35.2	46.4
Average price per lb (2020$)	$2.84	$2.86	$2.96	$3.09	$2.93
Share of Imports by Country					
Mexico	65.3	61.0	63.8	54.6	55.4
Nicaragua	7.8	11.0	11.3	6.8	5.4
Panama	9.3	7.9	6.9	13.5	10.3
All others	17.6	20.1	17.9	25.0	28.9

Source: NOAA Foreign Trade Query Tool, accessed 05/14/22

Groupers

According to NMFS' foreign trade data,[5] grouper are not exported from the U.S. to other countries. Thus, the following describes the imports of fresh and frozen grouper products, which directly compete with domestic harvest of grouper species. As shown in **Table 3.3.1.9**, imports of fresh grouper products were 11.5 million lbs pw in 2016. They peaked at 12.4 million lbs pw in 2018, but declined to 10.4 million lbs pw by 2020. Total revenue from fresh grouper imports decreased from $51.0 million (2020 dollars) in 2016 to a five-year low of $10.4 million in 2020. The average price per pound for fresh grouper products was $4.29 from 2016-2020. Imports of fresh grouper products primarily originated in Mexico, Panama and Brazil.

Table 3.3.1.9. Annual pounds and value of fresh grouper imports by country, 2016-2020.

	2016	2017	2018	2019	2020
Pounds of fresh Grouper imports (product weight, million pounds)	11.5	12.3	12.4	11.3	10.4
Value of fresh Grouper imports (millions $, 2020$)	51.0	53.5	54.9	50.9	39.0
Average price per lb (2020$)	$4.45	$4.36	$4.43	$4.50	$3.73
Share of Imports by Country					
Mexico	65.9	58.8	58.0	57.9	67.6
Panama	12.7	12.2	9.0	8.1	8.0
Brazil	4.9	10.1	15.9	16.9	12.3
All others	16.4	19.0	17.1	17.0	12.2

Source: NOAA Foreign Trade Query Tool, accessed 05/14/22

As shown in **Table 3.3.1.10**, imports of frozen grouper products were 0.8 million lbs pw in 2016. They peaked at 4.6 million lbs pw in 2018 but declined to 0.8 million lbs pw by 2020. Total revenue from frozen grouper increased from $1.6 million (2020 dollars) in 2016 to $5.9 million in 2018, but a subsequent decline to $1.4 million in 2020. The average price per pound for

[5] https://www.fisheries.noaa.gov/foss/

frozen grouper products was $4.29 from 2016-2020. Imports of frozen grouper products primarily originated in Mexico, India, and Indonesia.

Table 3.3.1.10. Annual pounds and value of frozen grouper imports and share of imports by country, 2016-2020.

	2016	2017	2018	2019	2020
Pounds of frozen Grouper imports (product weight, million pounds)	0.8	1.4	4.6	3.5	0.8
Value of frozen Grouper imports (millions $, 2020$)	1.6	2.0	5.9	4.6	1.4
Average price per lb (2020$)	$2.00	$1.40	$1.29	$1.32	$1.77
Share of Imports by Country					
Mexico	24.7	47.2	79.2	79.2	33.7
India	45.4	29.3	11.2	11.2	25.9
Indonesia	9.0	16.3	4.0	3.0	1.1
All others	20.8	7.2	5.5	6.5	39.3

Source: NOAA Foreign Trade Query Tool, accessed 05/14/22

Economic Impacts

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 golden tilefish 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 impacts 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.

In addition to these types of impacts, economic impact models can be used to determine the sources of the impacts. Each impact can be broken down into direct, indirect, and induced economic impacts. "Direct" economic impacts are the results of the money initially spent in the study area (e.g., country, region, state, or community) by the fishery or industry being studied. This includes money spent to pay for labor, supplies, raw materials, and operating expenses. The direct economic impacts from the initial spending create additional activity in the local economy, i.e., "indirect" economic impacts. Indirect economic impacts are the results of business-to-business transactions indirectly caused by the direct impacts. For example, businesses initially benefiting from the direct impacts will subsequently increase spending at other local businesses. The indirect economic impact is a measure of this increase in business-to-business activity, excluding the initial round of spending which is included in the estimate of direct impacts. "Induced" economic impacts are the results of increased personal income caused by the direct and indirect economic impacts. For example, businesses experiencing increased revenue from the direct and indirect impacts will subsequently increase spending on labor by hiring more employees, increasing work hours, raising salaries/wage rates, etc. In turn, households will

increase spending at local businesses. The induced impact is a measure of this increase in household-to-business activity.

Estimates of the U.S. average annual business activity associated with the commercial harvest of South Atlantic golden tilefish were derived using the model developed for and applied in NMFS (2021)[6] and are provided in **Table 3.3.1.11**. Specifically, these impact estimates reflect the expected impacts from average annual gross revenues generated by landings of South Atlantic golden tilefish from 2016 through 2020. This business activity is characterized as jobs (full time equivalents), income impacts (wages, salaries, and self-employed income), value-added impacts (the difference between the value of goods and the cost of materials or supplies), and output impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

The results provided should be interpreted with caution. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models specific to individual species such as greater amberjack are not available. Between 2016 and 2020, landings of South Atlantic golden tilefish resulted in approximately $1.90 million (2020$) in gross revenue on average. In turn, this revenue generated employment, income, value-added, and output impacts of 82 jobs, $2.4 million, $3.4 million, and $6.6 million per year, respectively, on average.

[6] A detailed description of the input/output model is provided in NMFS (2021).

Table 3.3.1.11. Average annual economic impacts in the commercial sector of the South Atlantic golden tilefish. All monetary estimates are in thousands of 2020 dollars and employment is measured in full-time equivalent jobs.

Harvesters	Direct	Indirect	Induced	Total
Employment impacts	14	2	3	20
Income impacts	357	66	160	584
Total value-added impacts	381	239	275	894
Output Impacts	662	538	533	1,733
Primary dealers/processors	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	3	1	2	6
Income impacts	117	107	102	326
Total value-added impacts	124	137	191	453
Output impacts	375	283	374	1,032
Secondary wholesalers/distributors	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	1	0	1	3
Income impacts	69	21	73	163
Total value-added impacts	74	35	125	233
Output impacts	186	68	243	497
Grocers	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	6	1	1	8
Income impacts	143	47	72	262
Total value-added impacts	152	77	121	350
Output impacts	244	124	238	607
Restaurants	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	37	2	6	46
Income impacts	573	174	328	1,075
Total value-added impacts	611	311	553	1,475
Output impacts	1,117	486	1,092	2,695
Harvesters and seafood industry	**Direct**	**Indirect**	**Induced**	**Total**
Employment impacts	62	7	14	82
Income impacts	1,259	416	735	2,410
Total value-added impacts	1,343	798	1,265	3,406
Output impacts	2,585	1,500	2,480	6,564

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2021).
*Converted to 2020 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

3.3.2 Recreational Sector

The recreational sector is comprised of the private and for-hire modes. The private mode includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire mode 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 type of service, from a vessel- or passenger-size perspective, affects the flexibility to search different fishing locations during the course of a trip and target different species since larger concentrations of fish are required to satisfy larger groups of anglers.

Landings

Recreational South Atlantic golden tilefish landings were highly variable from 2016-2020 (**Table 3.3.2.1**). Landings peaked in 2019 at 364,980 pounds ww, greatly exceeding any other year's landings. Private vessels accounted for the majority of tilefish landings on average from 2016-2020. Private vessels on average from 2016-2020 accounted for 77% of South Atlantic golden tilefish landings, charter vessels 20%, and headboats making up the remaining 3%. No landings for South Atlantic golden tilefish were recorded shore modes. The majority of landings on average occurred in Florida/Georgia (98%) (**Table 3.3.2.2**). Wave 1, which includes the months of January and February, accounted for the majority of landings on average from 2016-2020 (**Table 3.3.2.3**).

Table 3.3.2.1. Recreational landings (lbs ww) and percent distribution of South Atlantic golden tilefish across all states by mode for 2016-2020.

	Landings (pounds ww)				Percent Distribution		
Year	Charter vessel	Headboat	Private	Total	Charter vessel	Headboat	Private
2016	24,315	813	45,508	70,636	0.34	0.01	0.64
2017	6,665	2,067	7,364	16,096	0.41	0.13	0.46
2018	2,221	325	48,060	50,606	0.04	0.01	0.95
2019	14,885	6	350,089	364,980	0.04	0.00	0.96
2020	7,679	48	35,875	43,601	0.18	0.00	0.82
Average	11,153	652	97,379	109,184	0.20	0.03	0.77

Source: Southeast Fisheries Science Center MRIP FES recreational ACL dataset (7/1/2022).

Table 3.3.2.2. Recreational landings (lbs ww) of South Atlantic golden tilefish across by mode and state for 2016-2020.

	Charter		Headboat		Private	
	FL/GA	NC	FL/GA	NC	FL/GA	NC
2016	23,435	881	813	0	45,508	0
2017	6,665	0	2,067	0	7,364	0
2018	2,221	0	325	0	48,060	0
2019	14,885	0	0	6	342,522	7,567
2020	7,417	262	12	36	35,875	0
Average	10,925	228	644	8	95,866	1,513

Source: Southeast Fisheries Science Center MRIP FES recreational ACL dataset (7/1/2022).

Table 3.3.2.3. Recreational landings (lbs ww) of South Atlantic golden tilefish across by wave and mode.

	1 (Jan-Feb)	2 (Mar-Apr)	3 (May-Jun	4 (Jul-Aug)	5 (Sep-Oct)	6 (Nov-Dec)	Total
Charter							
2016	1,113	23,154	0	0	49	0	24,315
2017	5,956	709	0	0	0	0	6,665
2018	2,143	0	0	0	79	0	2,221
2019	12,872	2,013	0	0	0	0	14,885
2020	2,934	0	4,483	262	0	0	7,679
Average	5,003	5,175	897	52	25	0	11,153
Headboat							
2016	150	297	144	200	22	0	813
2017	56	0	56	1,479	477	0	2,067
2018	0	54	69	203	0	0	325
2019	0	0	6	0	0	0	6
2020	12	0	0	36	0	0	48
Average	44	70	55	384	100	0	652
Private/Rental							
2016	5,883	0	39,625	0	0	0	45,508
2017	0	0	0	7,364	0	0	7,364
2018	0	13,924	0	0	31,794	2,342	48,060
2019	342,522	0	0	7,567	0	0	350,089
2020	20,723	0	13,159	0	0	1,993	35,875
Average	73,826	2,785	10,557	2,986	6,359	867	97,379

Source: Southeast Fisheries Science Center MRIP FES recreational ACL dataset (7/1/2022).

Similar to golden tilefish, recreational South Atlantic blueline tilefish landings were variable from 2016-2020 (**Table 3.3.2.4**). Landings peaked in 2019 at 381,405 pounds ww, greatly exceeding any other year's landings. Private vessels accounted for the majority of blueline

tilefish landings on average from 2016-2020. Private vessels on average from 2016-2020 accounted for 71% of South Atlantic golden tilefish landings, charter vessels 25%, and headboats making up the remaining 4%. No landings for South Atlantic blueline tilefish were recorded shore modes. The majority of blueline tilefish landings on average occurred in North Carolina (86%) (**Table 3.3.2.5**). Wave 4, which includes the months of July and August, accounted for the majority of landings on average from 2016-2020 (**Table 3.3.2.6**).

Table 3.3.2.4. Recreational landings (lbs ww) and percent distribution of South Atlantic blueline tilefish across all states by mode for 2017-2021.Table 3.3.2.4.

	Landings (pounds ww)				Percent Distribution		
Year	Charter vessel	Headboat	Private	Total	Charter vessel	Headboat	Private
2017	94,356	10,222	52,304	156,882	0.60	0.07	0.33
2018	59,197	5,829	24,329	89,355	0.66	0.07	0.27
2019	88,339	2,113	18,617	109,069	0.81	0.02	0.17
2020	259,272	878	121,255	381,405	0.68	0.00	0.32
2021	125,533	1,275	26,330	153,139	0.82	0.01	0.17
Average	125,339	4,064	48,567	177,970	0.71	0.03	0.25

Source: Southeast Fisheries Science Center MRIP CHTS recreational ACL dataset (7/1/2022).

Table 3.3.2.5. Recreational landings (lbs ww) of South Atlantic blueline tilefish across by mode and state for 2017-2021.

	Charter		Headboat		Private	
	FL/GA	NC	FL/GA	NC	FL/GA	NC
2016	51,330	43,026	6,166	4,056	11,441	40,863
2017	5,501	53,696	3,604	2,225	890	23,439
2018	7,611	80,728	1,917	197	10,450	8,167
2019	3,197	256,075	666	212	15,843	105,411
2020	5,683	119,850	372	903	4,092	22,238
Average	14,664	110,675	2,545	1,519	8,543	40,024

Source: Southeast Fisheries Science Center MRIP CHTS recreational ACL dataset (7/1/2022).

Table 3.3.2.6. Recreational landings (lbs ww) of South Atlantic blueline tilefish across by wave and mode for 2017-2021.

	1 (Jan-Feb)	2 (Mar-Apr)	3 (May-Jun	4 (Jul-Aug)	5 (Sep-Oct)	6 (Nov-Dec)	Total
Charter							
2016	0	50,603	11,361	32,392	0	0	94,356
2017	268	0	15,571	43,358	0	0	59,197
2018	0	1,688	37,587	49,064	0	0	88,339
2019	0	0	26,130	233,142	0	0	259,272
2020	0	0	26,902	98,631	0	0	125,533
Average	54	10,458	23,510	91,317	0	0	125,339
Headboat							
2016	862	64	3,465	4,415	1,416	0	10,222
2017	0	1,004	1,814	3,011	0	0	5,829
2018	0	167	346	1,432	169	0	2,113
2019	0	0	39	840	0	0	878
2020	116	256	504	399	0	0	1,275
Average	196	298	1,234	2,019	317	0	4,064
Private/Rental							
2016	2,078	0	23,901	16,962	0	9,364	52,304
2017	0	0	8,769	15,560	0	0	24,329
2018	10,450	0	0	8,167	0	0	18,617
2019	0	0	4,678	101,946	0	14,631	121,255
2020	0	0	21,812	4,292	227	0	26,330
Average	2,506	0	11,832	29,385	45	4,799	48,567
All Modes							
2016	2,940	50,666	38,728	53,769	1,416	9,364	156,882
2017	268	1,004	26,154	61,930	0	0	89,355
2018	10,450	1,855	37,933	58,662	169	0	109,069
2019	0	0	30,847	335,928	0	14,631	381,405
2020	116	256	49,218	103,322	227	0	153,139
Average	2,755	10,756	36,576	122,722	362	4,799	177,970

Source: Southeast Fisheries Science Center MRIP CHTS recreational ACL dataset (7/1/2022).

Permits

For-hire Permits

There are no specific federal permitting requirements for recreational anglers to fish for or harvest golden or blueline tilefish. The same is true of private recreational vessel owners.

Instead, private anglers are required to either possess 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 or private recreational vessels would be expected to be affected by the actions in this amendment.

A federal charter/headboat (for-hire) vessel permit is also required for fishing in federal waters for Atlantic snapper-grouper. For-hire Atlantic Snapper Grouper permits are open access permits (i.e., access is not restricted). From 2016-2020, the number of For-hire Atlantic Snapper Grouper permits that were valid in a given year has increased every year until 2019 as illustrated in **Table 3.3.2.7.** The number of For-hire Atlantic Snapper Grouper permits that were valid fell by 2% in 2020, relative to 2019.

Table 3.3.2.7. Number of For-hire Atlantic Snapper Grouper permits, 2016-2020.

Year	Number of Permits
2016	1,867
2017	1,982
2018	2,126
2019	2,183
2020	2,136

Source: NMFS SERO SF Access Permits Database 07/08/22.

Angler Effort

Recreational effort derived from the MRIP database can be characterized in terms of the number of angler 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 in the Gulf, 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).[7]

Tables 3.3.2.8 and **3.3.2.9** describe the recreational target and catch trips for golden tilefish in the South Atlantic from 2016-2020. There are no catch or target trips by shore mode for golden tilefish in the South Atlantic.

[7] https://www.st.nmfs.noaa.gov/recreational-fisheries/data-and-documentation/queries/index

Private vessels represent 100% of golden tilefish target effort in the recreational sector. The majority of target effort occurs by private vessels in Florida, with sparse private vessel target effort occurring in North Carolina (**Table 3.3.2.8**).

Private vessels are responsible for the majority of catch effort for golden tilefish (88%). Catch effort by charter vessels represents the remaining 12% of the total catch effort. Private vessels in Florida account for the majority of catch effort for golden tilefish (87%), followed by charter vessels also in Florida (11%). As expected, the trends in catch effort mimic the trends in landings, with the peak occurring in 2019 (**Table 3.3.2.9**).

Table 3.3.2.8. Golden tilefish recretional target trips, by mode and state*, 2016-2020.

Mode	Year	Florida	North Carolina	Total
Charter	2016	0	0	0
	2017	0	0	0
	2018	0	0	0
	2019	0	0	0
	2020	0	0	0
	Average	0	0	0
Private	2016	13,256	0	13,256
	2017	2,057	0	2,057
	2018	2,471	0	2,471
	2019	8,227	297	8,525
	2020	37,404	0	37,404
	Average	12,683	59	12,743
All	2016	13,256	0	13,256
	2017	2,057	0	2,057
	2018	2,471	0	2,471
	2019	8,227	297	8,525
	2020	37,404	0	37,404
	Average	12,683	59	12,743

Source: MRIP database, SERO, NMFS (June 2022)
*No reported target trips for GA or SC
Note 1: The estimates are based on MRIP FES.

Table 3.3.2.9. Golden tilefish recreational catch trips, by mode and state, 2016-2020.

Mode	Year	Florida	North Carolina	Total
Charter	2016	3,808	177	3,985
	2017	553	0	553
	2018	469	0	469
	2019	1,251	0	1,251
	2020	1,062	161	1,224
	Average	1,429	68	1,496
Private	2016	12,945	0	12,945
	2017	1,512	0	1,512
	2018	8,514	0	8,514
	2019	25,478	297	25,776
	2020	4,919	0	4,919
	Average	10,674	59	10,733
All	2016	16,753	177	16,930
	2017	2,065	0	2,065
	2018	8,983	0	8,983
	2019	26,729	297	27,026
	2020	5,981	161	6,142
	Average	12,102	127	12,229
Mode	**Year**	**Florida**	**North Carolina**	**Total**
Charter	2016	3,808	177	3,985
	2017	553	0	553
	2018	469	0	469
	2019	1,251	0	1,251
	2020	1,062	161	1,224
	Average	1,429	68	1,496
Private	2016	12,945	0	12,945
	2017	1,512	0	1,512
	2018	8,514	0	8,514
	2019	25,478	297	25,776
	2020	4,919	0	4,919
	Average	10,674	59	10,733
All	2016	16,753	177	16,930

	2017	2,065	0	2,065
	2018	8,983	0	8,983
	2019	26,729	297	27,026
	2020	5,981	161	6,142
	Average	12,102	127	12,229

Source: MRIP database, SERO, NMFS (June 2022)
*No reported target trips for GA or SC
Note 1: The estimates are based on MRIP FES.

Tables 3.3.2.10 and **3.3.2.11** describe the recreational target and catch trips for blueline tilefish in the South Atlantic from 2017-2021. There are no catch or target trips by shore mode for blueline tilefish in the South Atlantic.

Private vessels are responsible for the majority of target effort for blueline tilefish (64%), but it likely skewed do to the large number of trips taken by private vessels in 2020. Target effort by charter vessels represents the remaining 36% of the total target effort, but is more consistent than private vessel effort. Private vessels in North Carolina account for the only private target effort for blueline tilefish (**3.3.2.10**).

Private vessels represent 54% of blueline tilefish catch effort in the recreational sector, and charter vessels the remaining 46%. On average, the majority of catch effort for blueline tilefish occurred in North Carolina (67%) evenly split between the charters and private modes. Florida accounted for 33% of catch effort for blueline tilefish in the recreational sector (**3.3.2.11**).

Table 3.3.2.10. Blueline tilefish recreational target trips, by mode and state, 2017-2021.

Mode	Year	Florida	North Carolina	Total
Charter	2017	291	146	437
	2018	0	216	216
	2019	0	2,039	2,039
	2020	0	5,574	5,574
	2021	0	907	907
	Average	58	1,776	1,835
Private	2017	0	0	0
	2018	0	615	615
	2019	0	0	0

	2020	0	15,866	15,866
	2021	0	0	0
	Average	0	3,296	3,296
All	2017	291	146	437
	2018	0	831	831
	2019	0	2,039	2,039
	2020	0	21,440	21,440
	2021	0	907	907
	Average	58	5,073	5,131

Source: MRIP database, SERO, NMFS (June 2022)
*No reported target trips in GA or SC
Note 1: The estimates are based on MRIP CHTS.

Table 3.3.2.11. Blueline tilefish recreational catch trips, by mode and state, 2017-2021.

Mode	Year	Florida	North Carolina	Total
Charter	2017	4,449	3,362	7,811
	2018	1,461	3,382	4,843
	2019	4,106	4,870	8,976
	2020	780	13,874	14,654
	2021	994	7,062	8,056
	Average	2,358	6,510	8,868
Private	2017	9,479	4,139	13,618
	2018	739	3,351	4,090
	2019	999	1,621	2,620
	2020	7,475	16,864	24,339
	2021	1,354	6,753	8,107
	Average	4,009	6,546	10,555
All	2017	13,928	7,501	21,429
	2018	2,200	6,733	8,933
	2019	5,105	6,491	11,595
	2020	8,255	30,738	38,993

	2021	2,348	13,816	16,164
	Average	6,367	13,056	19,423

Source: MRIP database, SERO, NMFS (June 2022)
*No reported catch trips in GA or SC
Note 1: The estimates are based on MRIP CHTS.
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Similar analysis of recreational effort is not possible for the headboat mode in the South Atlantic 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 number of standardized 12-hour fishing days that account for the different half-, three-quarter-, and full-day fishing trips by headboats. The stationary "fishing for demersal (bottom-dwelling) species" nature of headboat fishing, as opposed to trolling, suggests that most, if not all, headboat trips and, hence, angler days, are demersal or snapper grouper trips by intent.

Headboat angler days were highly variable across the South Atlantic states from 2016 through 2020 (**Table 3.3.2.12**). Florida/Georgia were responsible for the vast majority of headboat effort during this time, accounting for about 69% of the total headboat effort. However, headboat effort in Florida/Georgia declined considerably in 2017 (about 36%) and again in 2020. Headboat effort in North Carolina also declined considerably (about 22%), but a year later in 2018. Headboat effort in South Carolina vacillated slightly during this time.

Table 3.3.2.12. South Atlantic headboat angler days and percent distribution by state (2016-2020).

	Angler Days			Percent Distribution		
	FL/GA*	**NC**	**SC**	**FL/GA**	**NC**	**SC**
2016	196,660	21,565	42,207	75.50%	8.30%	16.20%
2017	126,126	20,170	36,914	68.80%	11.00%	20.10%
2018	120,560	16,813	37,611	68.90%	9.60%	21.50%
2019	119,712	15,546	41,470	67.70%	8.80%	23.50%
2020	84,003	14,152	34,079	63.53%	10.70%	25.77%
Average	129,412	17,649	38,456	68.89%	9.68%	21.41%

*Florida and Georgia are combined for confidentiality purposes.
Source: NMFS Southeast Region Headboat Survey (SRHS) data 03/11/22.

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 economic 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. Carter and Liese (2012) produced estimates of CS for groupers, red snapper, and king mackerel in the South Atlantic. Carter and Liese (2012) did not produce

specific estimates for tilefishes; instead, their estimates for grouper are likely the best available proxies for golden and blueline tilefish. The CS for catching and keeping a second grouper [8] on an angler trip is approximately $60.92 (2020$), and decreases thereafter (approximately $44.90 for a third grouper, $35.38 for a fourth grouper, and $29.15 for a fifth grouper (Carter and Liese 2012).

Estimates of average annual gross revenue for charter vessels are only available from Holland (2012). After adjusting for inflation, the best available estimate of average annual charter vessel revenue is $126,771 (2020$). Holland (2012) also provided an estimate of average annual gross revenue for South Atlantic headboats, which is $224,124 in 2020$. However, a more recent estimate of average annual gross revenue for South Atlantic headboats is available from D. Carter (pers. comm., March 15, 2018). Carter (2018) recently estimated that average annual gross revenue for South Atlantic headboats were approximately $307,545 (2020$) in 2017. This estimate is likely the best current estimate of annual gross revenue for South Atlantic headboats as it is based on a relatively large sample and is more recent. The difference in the Holland (2012) and Carter (2018) estimate for headboats suggests that the estimate for charter vessels based on Holland (2012) is likely an underestimate of current average annual revenue for charter vessels.

However, gross revenues overstate the annual economic value and profits generated by for-hire vessels. Economic value for for-hire vessels can be measured by annual PS. In general, PS is the amount of money a vessel owner earns in excess of variable (trip) costs. Economic profit is the amount of money a vessel owner earns in excess of variable and fixed costs, inclusive of all implicit costs, such as the value of a vessel owner's time as captain and as entrepreneur, and the cost of using physical capital (i.e., depreciation of the vessel and gear). Estimates of PS and economic profit for headboats is not available from Carter (2018) as that study did not collect cost data. Although Holland (2012) did collect cost data, concerns have been raised about the accuracy of their cost estimates, and thus estimates of average annual vessel PS and profit have not been generated using those estimates.

With regard to for-hire trips, economic value can be measured by PS per angler trip, which represents the amount of money that a vessel owner earns in excess of the cost of providing the trip. Estimates of trip revenue, trip costs, and trip net revenue trips taken by headboats and charter vessels in 2017 are available from Souza and Liese (2019). They also provide estimates of net cash flow per angler trip, which approximate PS per angler trip. As shown in **Table 3.3.2.13**, after accounting for transactions fees, supply costs, and labor costs, net revenue per trip was 40% of revenue for South Atlantic charter vessels and 54% of revenue for Southeast headboats, or $560 and $1,835 (2020$), respectively. Given the respective average number of anglers per trip for each fleet, PS per angler trip is estimated to be $119 for charter vessels and $65 for headboats.

[8] The study only considered trips with at least one fish caught and kept in its experimental design; thus, an estimate for the first caught and kept fish is not available.

Table 3.3.2.13. Trip economics for offshore trips by South Atlantic charter vessels and Southeast headboats in 2017 (2020$).

	South Atlantic Charter Vessels	Southeast Headboats
Revenue	100%	100%
Transaction Fees (% of revenue)	3%	6%
Supply Costs (% of revenue)	29%	19%
Labor Costs (% of revenue)	28%	22%
Net Revenue per trip including Labor costs (% of revenue)	40%	54%
Net Revenue per Trip	$560	$1,835
Average # of Anglers per Trip	4.7	28.2
Trip Net Cash Flow per Angler Trip	$119	$65

Source: Souz and Liese (2019)

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 South Atlantic golden and blueline tilefish were calculated using average trip-level impact coefficients derived from the 2018 Fisheries Economics of the U.S. report (NMFS 2021) and underlying data provided by the National Oceanic and Atmospheric Administration (NOAA) Office of Science and Technology. Economic impact estimates in 2018 dollars were adjusted to 2020 dollars using the annual, not seasonally adjusted gross domestic product (GDP) implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Business activity (economic impacts) for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (contribution to the GDP in a state or region). Estimates of the average annual economic impacts (2016–2020, golden tilefish) (2017-2021, blueline tilefish) resulting from golden and blueline tilefish charter and private vessel target trips are provided in **Table 3.3.2.14** and **3.3.2.15.** To calculate the multipliers from **Table 3.3.2.14** and **3.3.2.15**, simply divide the desired impact measure (sales impact, value-added impact, income impact or employment) associated with a given state by the number of target trips for that state.

The estimates provided in **Table 3.3.2.14** and **3.3.2.15** only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity, because state-level impact multipliers do not account for interstate and interregional trading. It is also important to note that these economic impacts estimates are based on trip expenditures only and do not account for durable expenditures. Durable expenditures cannot be reasonably apportioned to individual species. As such, the estimates provided in **Table 3.3.2.14** and **3.3.2.15** may be considered a lower bound on the economic activity associated with those trips that targeted golden or blueline tilefish.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in MRIP in the Southeast, 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 3.3.2.14. Estimated average annual economic impacts (2016-2020) from South Atlantic charter and private vessel golden tilefish target trips, by state, using state-level multipliers. All monetary estimates are in 2020 dollars in thousands.

	NC	FL
Charter Mode		
Target Trips	$0	$0
Value Added Impacts	$0	$0
Sales Impacts	$0	$0
Income Impacts	$0	$0
Employment (Jobs)	$0	$0
Private/Rental Mode		
Target Trips	$59	$12,683
Value Added Impacts	$2	$354
Sales Impacts	$3	$528
Income Impacts	$1	$175
Employment (Jobs)	$0	$5
All Modes		
Target Trips	$59	$12,683
Value Added Impacts	$2	$354
Sales Impacts	$3	$528
Income Impacts	$1	$175
Employment (Jobs)	$0	$5

Source: MRIP Survey Data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads.

Table 3.3.2.15. Estimated average annual economic impacts (2017-2021) from South Atlantic charter and private vessel blueline tilefish target trips, by state* using state-level multipiers. All monetary estimates are in 2020 dollars in thousands.

	NC	FL
Charter Mode		
Target Trips	1,776	58
Value Added Impacts	$757	$14
Sales Impacts	$1,316	$23
Income Impacts	$446	$8
Employment (Jobs)	13	0
Private/Rental Mode		
Target Trips	3,296	0
Value Added Impacts	$104	$0
Sales Impacts	$172	$0
Income Impacts	$60	$0
Employment (Jobs)	2	0
All Modes		
Target Trips	5,072	58
Value Added Impacts	$861	$14
Sales Impacts	$1,488	$23
Income Impacts	$506	$8
Employment (Jobs)	15	0

Source: MRIP Survey Data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads.

3.4 Social Environment

This amendment addresses management strategies for golden and blueline tilefish resources in the federal waters of the South Atlantic, with potential implications for those who pursue the species for recreational or commercial purposes. This section describes select social, demographic, and geographic aspects of the fishery sectors addressed by the amendment, providing essential background for social effects analysis in Chapter 4. Trends in landings and permit issuance are provided to aid in describing the geographic distribution of fishing effort, with emphasis on identifying communities where fleets are most deeply engaged in the pursuit of the tilefish species of interest. Description of community-level involvement in the fishery sectors is provided to meet the requirements of National Standard 8 of the Magnuson-Stevens Act, which calls for examination of linkages between fishery resources and human communities when regulatory changes are under consideration. Finally, this section addresses environmental

justice concerns, with a focus on identifying social vulnerabilities to prospective regulatory change in communities where pursuit of tilefish resources is known to be of local importance.

3.4.1 Golden Tilefish Commercial Sector

Olin et al. (2020) describe golden tilefish with regard to life history, diet, distribution, functional roles in the ecosystem, and other factors. The authors describe the species as sympatric with blueline tilefish in that both species tend to occupy the same deep-water ecological niches—in this case, between 250 and 1,500 feet in depth along the shelf-edges and sediment-laden slopes of the northwest Atlantic. Preferred temperatures range from ~49° to 58° F (SAFMC 2022). Such commonality in preferred habitat is important in human terms inasmuch as participants often report capturing both species of tilefish during the same trip. Preferred habitat also heavily influences the nature of a given offshore trip. In this case, commercial (and recreational) harvesters must organize their trips to meet the demands of navigating and fishing in offshore waters of considerable depth, muddy or clay-like bottom conditions that are often mixed with rocky substrate, and the challenges of offshore current, weather, and surface conditions. Such factors affect the nature and extent of fishing effort, time at sea, gear requirements, and costs associated with ocean travel. Finally, safety-at-sea considerations can take on added importance in the offshore zones where tilefish are typically found, and where assistance can be relatively more difficult to attain than in areas closer to shore.

Travel-related challenges associated with pursuit of golden tilefish vary across the South Atlantic management region and its sub-regions. For example, captains and crew departing north of Cape Hatteras and along the South Florida coastline and Florida Keys can reach tilefish grounds relatively quickly. Meanwhile, vessels leaving from ports where the Continental Shelf is much wider, such as along the coastlines of southeast North Carolina and northeast South Carolina, must travel considerably greater distances to reach areas of suitable bathymetry and appropriate temperatures at depth.

A commonly used approach for pursuing golden tilefish involves drifting with heavily weighted deep-drop hook-and-line gear. Use of cut bait is typical, with electric reels and/or bandit gear used to retrieve hooked fish from the depths. Commercial captains operating in the South Atlantic must possess a golden tilefish longline endorsement in order legally harvest the species with bottom longline gear (north of St. Lucie in Florida). Given the depths and nature of the habitats involved, entanglement of gear poses a serious threat to operational efficiency and is therefore stringently avoided. Knowledge of tilefish feeding patterns and ecological attributes of areas where tilefish are known or thought likely to be present—often with other demersal species of economic importance (such as snowy grouper, for instance)—are particularly important forms of information among individual captains and/or social networks of captains involved in the fishery.

Landings by State

State-specific landings of golden tilefish captured in federal waters provide an indication of the communities from which commercial captains and crew conduct their operations. During 2020, nearly 81.4% of the year's landings occurred at ports in Florida, followed by 11.9% at ports in South Carolina, and 6.7% at ports in North Carolina. No federally permitted commercial landings of the species were reported along the Georgia coastline during the period 2017 through

2020. Florida landings far exceed those of the remaining South Atlantic states during each year of the 2016 through 2020 time-series (SEFSC Community ALS File).

South Atlantic Commercial Snapper Grouper Permits by State and Community

An unlimited or 225-lb.trip-limited snapper grouper (S-G) permit is required for captains/vessels to legally participate in the federally managed commercial golden tilefish fishery. The distribution of such permits indicates states and ports from which active vessels typically operate. A total of 535 unlimited S-G permits were issued during 2020, the latest year for which valid permit data are presently available. At 67.1%, most unlimited S-G permits were issued during 2020 to residents or persons with mailing addresses in Florida, followed by 21.9% in North Carolina, 7.6% in South Carolina, and 1.5% in Georgia. Two or fewer unlimited permits were issued to persons with mailing addresses in New York, New Jersey, Virginia, and Texas during 2020. As indicated in Table 3.4.1, a high percentage of both permit types are held by fishery participants active in waters proximal to Key West.

Table 3.4.1. Distribution of commercial snapper grouper unlimited and 225-lb trip-limited permits among the top permit-holding communities in the South Atlantic during 2020.

Leading Communities: Unlimited S-G Permits	Permits	Leading Communities: 225-lb Trip-Limited S-G Permits	Permits
Key West, Florida	92	Key West, Florida	11
Key Largo, Florida	22	Marathon, Florida	10
Miami, Florida	21	Miami, Florida	9
Marathon, Florida	19	Jupiter, Florida	6
Murrells Inlet, South Carolina	15	Big Pine Key, Florida	5
Little River, South Carolina	15	Key Largo, Florida	4
Port Canaveral, Florida	14	Sebastian, Florida	4
Jacksonville, Florida	13	Wilmington, North Carolina	4
Southport, North Carolina	13	West Palm Beach, Florida	3
Jupiter, Florida	12	Hatteras, North Carolina	3
Morehead City, North Carolina	11	Fort Pierce, Florida	2
St. Augustine, Florida	11	Middle Torch Key, Florida	2
Sneads Ferry, North Carolina	11	Cudjoe Key, Florida	2
Fort Pierce, Florida	11	Summerland Key, Florida	2
Big Pine Key, Florida	11	Fort Lauderdale, Florida	2
Sebastian, Florida	11	Boca Raton, Florida	2
Sneads Ferry, North Carolina	10	Morehead City, North Carolina	2
Mayport, Florida	10	--	--
Islamadora. Florida	8	--	--

Source: SERO Sustainable Fisheries (SF) Access permits database.

South Atlantic Golden Tilefish Commercial Longline Endorsements

Commercial participants/vessels must acquire a golden tilefish longline endorsement to legally deploy bottom longline gear for the species in the federal waters of the South Atlantic. A total of 22 such endorsements were issued during 2020, primarily to participants with mailing addresses in communities south of Cape Canaveral in Florida (n=16). Four endorsements were issued to

participants/vessels operating from South Carolina during 2020, and only one endorsement was issued to participants operating from North Carolina and Georgia that year.

Regional Quotient of Commercial Golden Tilefish Landings in the South Atlantic

Figures 3.4.1 and 3.4.2 respectively depict the distribution of commercial golden tilefish landings and associated ex-vessel value of landings among those communities in the South Atlantic with the greatest share of golden tilefish landings during the time-series. Each distribution is expressed here as a regional quotient, or the share of community landings and ex-vessel values divided by landings and values for the overall region. Communities are presented in the graphic based on a ranking of average landings and average values over the period of interest.

As can be discerned from Figure 3.4.1, commercial participants based in Port Orange, Florida collectively account for the greatest proportion of community-specific golden tilefish landings during 2020 and throughout the time-series. Fishery participants resident in or otherwise affiliated with the towns Titusville, Cocoa Beach, and Fort Pierce in Florida, and Little River in South Carolina also account for large proportions of landings during the period of interest. Of note, captains and crew operating from Little River travel many scores of ocean miles to reach suitable tilefish grounds. Figure 3.4.2 depicts the ex-vessel value of landings by participants in each community for the time-period of interest, with figures closely approximating the distribution of landings in the region.

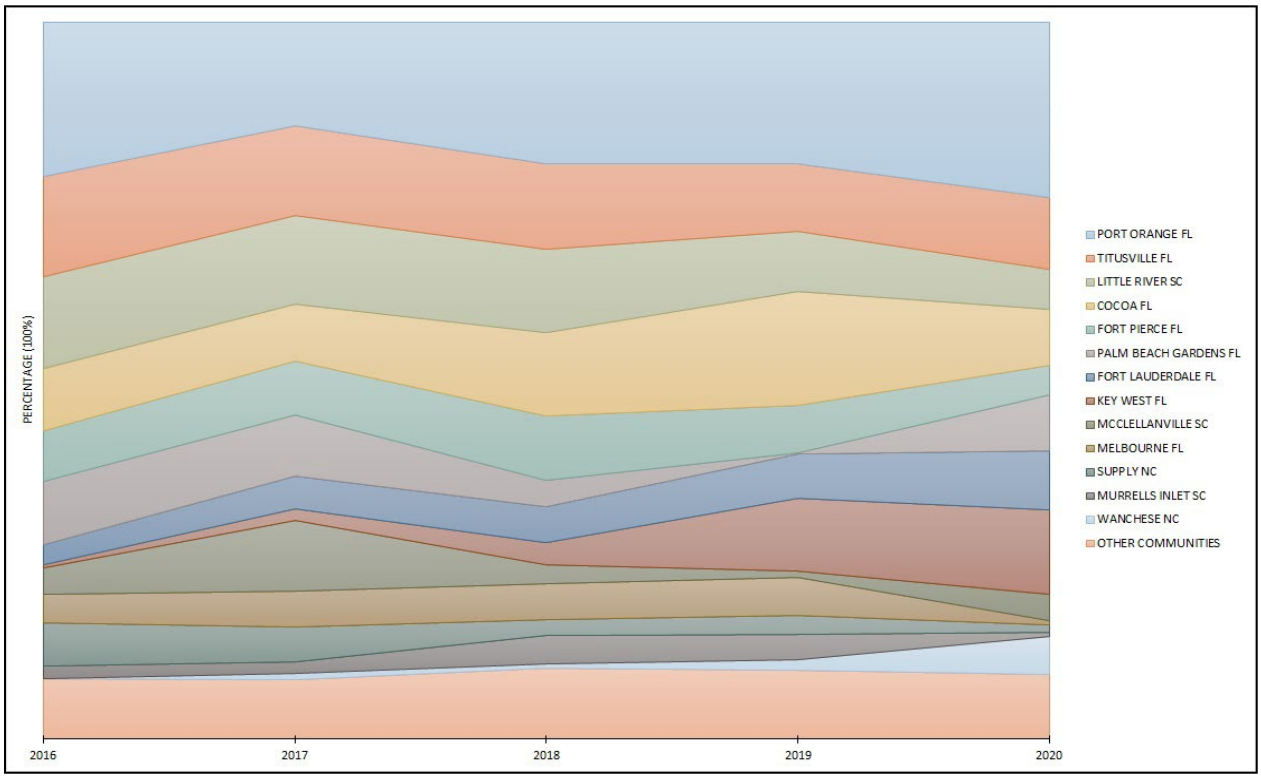

Figure 3.4.1. Distribution of regional landings among the top South Atlantic commercial golden tilefish landings communities: 2016 through 2020. Source: SEFSC, Community ALS File.

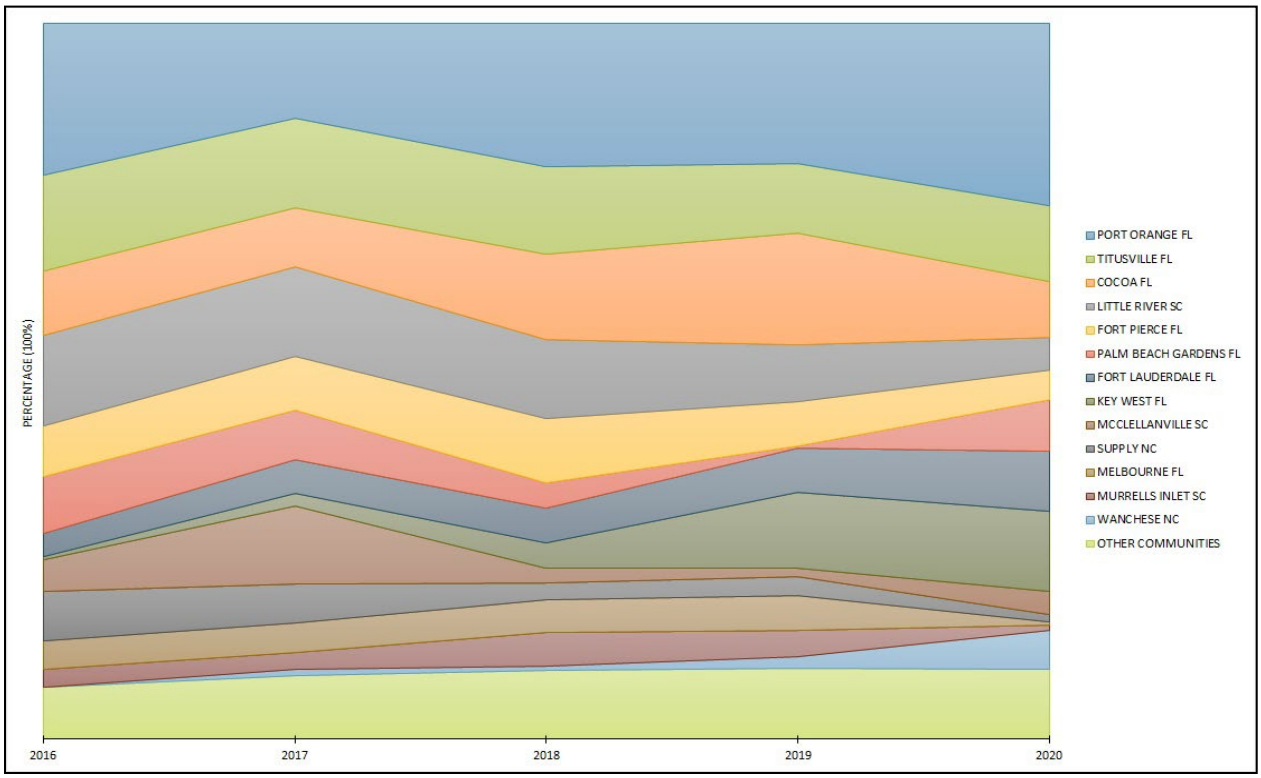

Figure 3.4.2 Distribution of regional landings *value* among the top South Atlantic commercial golden tilefish longline landings communities: 2016 through 2020. Source: SEFSC, Community ALS File.

Community Engagement & Reliance: Commercial Golden Tilefish Fishery

As depicted in Figure 3.4.3, the Florida communities of Key West, Fort Pierce, and Fort Lauderdale, along with the North Carolina community of Wanchese score highly in terms of relative extent of engagement in the South Atlantic golden tilefish fishery. The measure of engagement provided here is a generalizable composite indicator based on: (a) pounds of golden tilefish landed by the local commercial fleets—in this case, pounds averaged over the time series, (b) associated ex-vessel revenue (as presented above), and (c) the number of commercial fishery participants and seafood dealers present in a given community.

Readers may consult Jacob et al. (2013), Jepson and Colburn (2013), and Hospital and Leong (2021) for discussion of the rationale and approach for using indicators to assess local engagement in and reliance on regional marine fisheries. The measure of reliance used here incorporates the same variables noted above, divided by the total local population figure. Both measures are useful means for indicating where any prospective effects of commercial golden tilefish management actions are likely to be experienced. Notably, the Florida community of Key West far exceeds the one standard deviation threshold for engagement in South Atlantic commercial fisheries, as does the North Carolina community of Wanchese. Wanchese approaches the .5 standard deviation threshold for reliance on regional commercial fisheries, suggesting limited local economic alternatives to the fishing and seafood industry. Wanchese, on Roanoke Island in northeast North Carolina is a rural waterfront town of some 1,522 residents (U.S. Census Bureau 2020a).

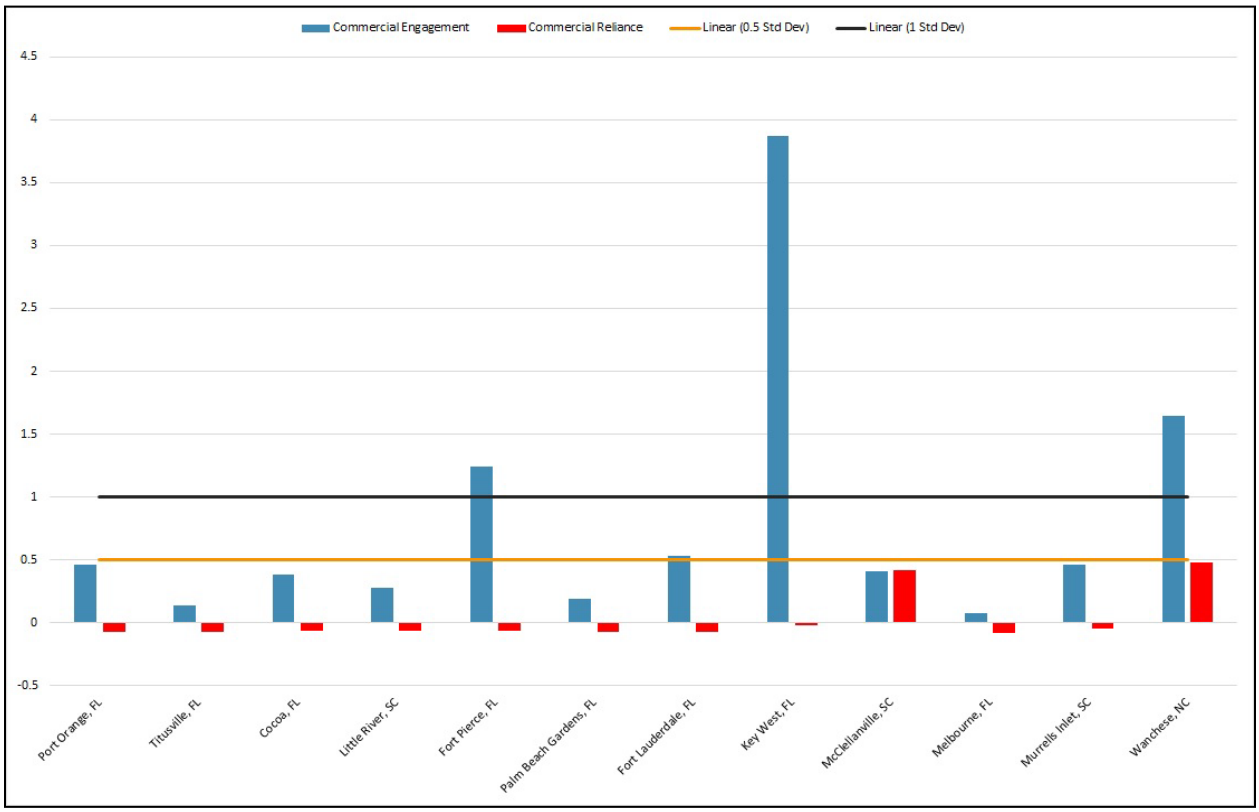

Figure 3.4.3. Measures of engagement and reliance among the leading commercial golden tilefish landings communities in the South Atlantic during 2020. Source: SERO, Community Social Vulnerability Indicators Database.

3.4.2 Blueline Tilefish Recreational Sector

Participants in the federally managed South Atlantic recreational fishing sector generally pursue blueline tilefish using deep-drop gear and techniques suited to the considerable depths and mixed sediment/rocky substrate habitats preferred by the species. Vertical hook-and-line gear, including handlines and bandit gear are commonly used by participants. The recreational bag limit is three fish per day per vessel. Environmental knowledge, positioning technology, navigational skills, and experience with deep-drop gear are core dimensions of success when pursuing blueline tilefish in its deep-water habitat. Drifting over the fishing grounds is most typical given the challenges of anchoring in deep-water zones close to the Gulf Stream.

State-Level Distribution of Recreational Blueline Tilefish Landings

Based on data generated through the NMFS Marine Recreational Information Program Fishing Effort Survey (MRIP-FES), the greatest proportion of blueline tilefish recreational landings occurred along the east coast of Florida during 2020. Distance to blueline tilefish grounds tends to constrain recreational landings in areas where the Continental Shelf is relatively much wider than in South Florida or north of Cape Hatteras. This is the case in southeast North Carolina and northeast South Carolina, for example, although participation in offshore fisheries in such areas is said to be on the rise—due in part to the ever-increasing power and efficiency of modern recreational fishing vessels and engines (see Cook et al. 2021).

For-Hire Permits

For-hire captains seeking to harvest blueline tilefish in federal waters must possess a South Atlantic snapper grouper charter/headboat permit. A total of 2,136 such permits were issued during 2020, the vast majority to persons with mailing addresses in North Carolina, South Carolina, Georgia, and Florida. The total number of permits increased steadily during the period 2016 through 2019, with 1,867 permits issued in 2016, 1,982 in 2017, 2,126 in 2018, and 2,183 in 2019. As such, 47 fewer permits were issued during 2020 than during 2019.

Table 3.4.3 below depicts the distribution of South Atlantic snapper grouper charter/headboat permits among the leading permit-holding communities during the 2020 data year. Of note in the table, the greatest proportion of federal permits were held by residents or persons with postal addresses in Key West, with 196 issued during 2020, down from a high of 206 in 2018. Such extensive local involvement merits summary description of the community. As of April 1, 2020, Key West was home to 24,649 permanent residents (U.S. Census Bureau 2020b), but with a characteristically large expansion of the local population as seasonal residents and tourists arrive during the winter months. Key West is the southernmost city in the mainland U.S., with a consistently mild tropical-maritime climate (NOAA 2021). The combination of favorable winter weather, close proximity to deep-water fishing grounds, and increasing rates of seasonal residence and visitation following a period of gentrification initiated in decades past (Shivlani 2014), help explain the extensive nature of for-hire fishing opportunities and services available in the community.

Table 3.4.3. Distribution of South Atlantic fore-hire/headboat snapper grouper permits among the top 20 permit-holding communities in the region: 2020**.**

State	Leading Communities	Number of Permits in 2020
Florida	Key West	196
Florida	Islamorada	98
Florida	Marathon	81
Florida	Port Canaveral	77
South Carolina	Charleston	55
Florida	St. Augustine	44
North Carolina	Hatteras	42
Florida	Miami	41
Florida	Ponce Inlet	40
South Carolina	Murrells Inlet	36
Florida	Jacksonville	36
North Carolina	Morehead City	35
Florida	Jupiter	33
Florida	Key Largo	33
South Carolina	Little River	29
North Carolina	Manteo	28
Florida	Naples	27
Florida	Cape Canaveral	26
Florida	Port Orange	25
South Carolina	Fort Lauderdale	22

Source: SERO Sustainable Fisheries (SF) Access permits database

Community Engagement & Reliance: South Atlantic Recreational Blueline Tilefish Fishery
The full range of data indicative of involvement in the South Atlantic blueline tilefish recreational sector is not readily available at the level of the community. For this reason, it is not possible with available information to identify communities that are specifically engaged in and/or reliant on recreational fishing for this deep-water species in particular. Given that information regarding community-specific interaction with any given species is limited, NOAA Fisheries social scientists developed indices of utility for identifying communities where recreational fishing is an important component of the local economy in general (see Jacob et al. 2013; Jepson and Colburn 2013; Hospital and Leong 2021).

Based on the available indices, the communities depicted in Figure 3.4.4 are those in the South Atlantic region where residents are most clearly involved in the recreational fishing industry in general. Further specificity is enabled in that the communities represented in the figure are those with the greatest number of for-hire snapper grouper permits in the South Atlantic fishery management region. The measure of engagement depicted here derives from the number of for-hire permitted vessels and recreational fishing infrastructure actively used by residents or persons otherwise connected to a given community. The measure of reliance derives from the same variables divided by the total local population figure. In this case, very high levels of recreational engagement are noted of Jacksonville, Islamadora, and Key West in Florida, and Hatteras in North Carolina. Of note, Hatteras is the only community that exceeds the .5 standard deviation threshold for *reliance* on the recreational fishing industry, indicating the particular importance of for-hire and private recreational fishing and related services and opportunities in this remote Outer Banks community. Other geographically remote communities approach the same threshold, including Islamorada in the Florida Keys, and Manteo in northeastern North Carolina.

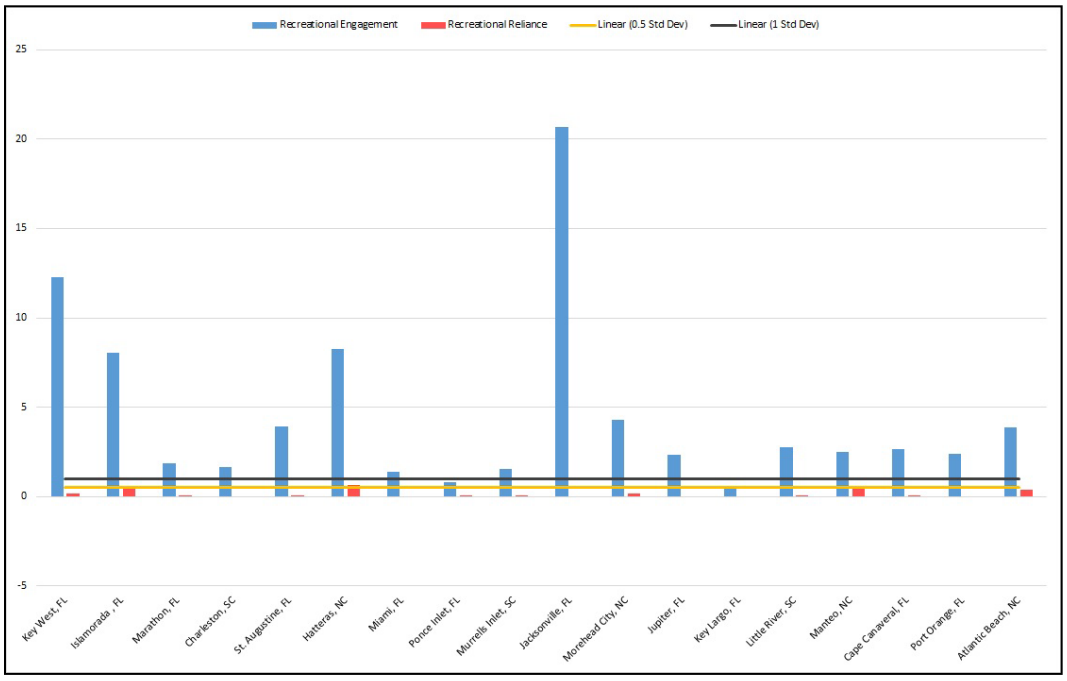

Figure 3.4.4. Measures of community involvement in the South Atlantic recreational fishing industry during 2020. Source: SERO, Community Social Vulnerability Indicators Database.

3.4.3 Environmental Justice

Executive Order 12898 was established in 1994 to require that federal agencies examine the human health and socioeconomic implications of federal regulatory actions among low-income and minority groups and populations around the nation. The order requires that such agencies conduct programs, policies, and activities in a manner that ensures no individuals or populations are excluded, denied the benefits of, or subjected to discrimination due to race, color, or nation of origin. Of particular relevance in the context of marine fisheries, federal agencies are further required to collect, maintain, and analyze data regarding patterns of consumption of fish and wildlife among persons who rely on such foods for purposes of subsistence. In sum, the principal intent of the order is to require assessment and due consideration of any "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."

Various forms of data are available to indicate environmental justice issues among minority and low-income populations and/or indigenous communities potentially affected by federal regulatory and other actions. With the intent of enhancing capacity to determine whether environmental justice issues may be affecting communities around the U.S. where fishing-related industry is an important aspect of the local economy, NMFS social scientists undertook an extensive series of deliberations and review of pertinent data and literature. The scientists ultimately selected key social, economic, and demographic variables that could function to identify social vulnerabilities at the community level of analysis (see Jacob et al. 2013; Jepson and Colburn 2013). Census data such as community-specific rates of poverty, number of households maintained by single females, number of households with children under the age of five, rates of crime, and rates of unemployment exemplify the types of information chosen to aid in community analysis. Pertinent variables were subsequently used to develop composite indices that could be applied to assess vulnerability to environmental, regulatory, and other sources of change among the nation's fishing- and/or seafood-oriented communities.

As provided in the following figures, three composite indices—termed here as poverty, population composition, and personal disruption—are applied to indicate relative degrees of socioeconomic vulnerability among those communities with the greatest percentages of golden tilefish landings in the South Atlantic region. Mean standardized scores for each community are provided along the y-axis, with means for the vulnerability measures and threshold standard deviations depicted along the x-axis. Scores exceeding the .5 standard deviation level indicate local social vulnerability to regulatory and other sources of change. As can be discerned from Figure 3.4.5 below, three of the principal landings communities—Cocoa Beach, Fort Pierce, and Fort Lauderdale—exceed the designated vulnerability thresholds for one or more indices.

Finally, Figure 3.4.6 depicts social vulnerability measures for South Atlantic communities most extensively involved in the regional recreational fishing industry. The data presented here indicate social vulnerability issues especially in the Florida communities of Daytona Beach and Fort Pierce. Both figures derive from data available in the SERO Community Social Vulnerability Indicators (CSVI) Database.

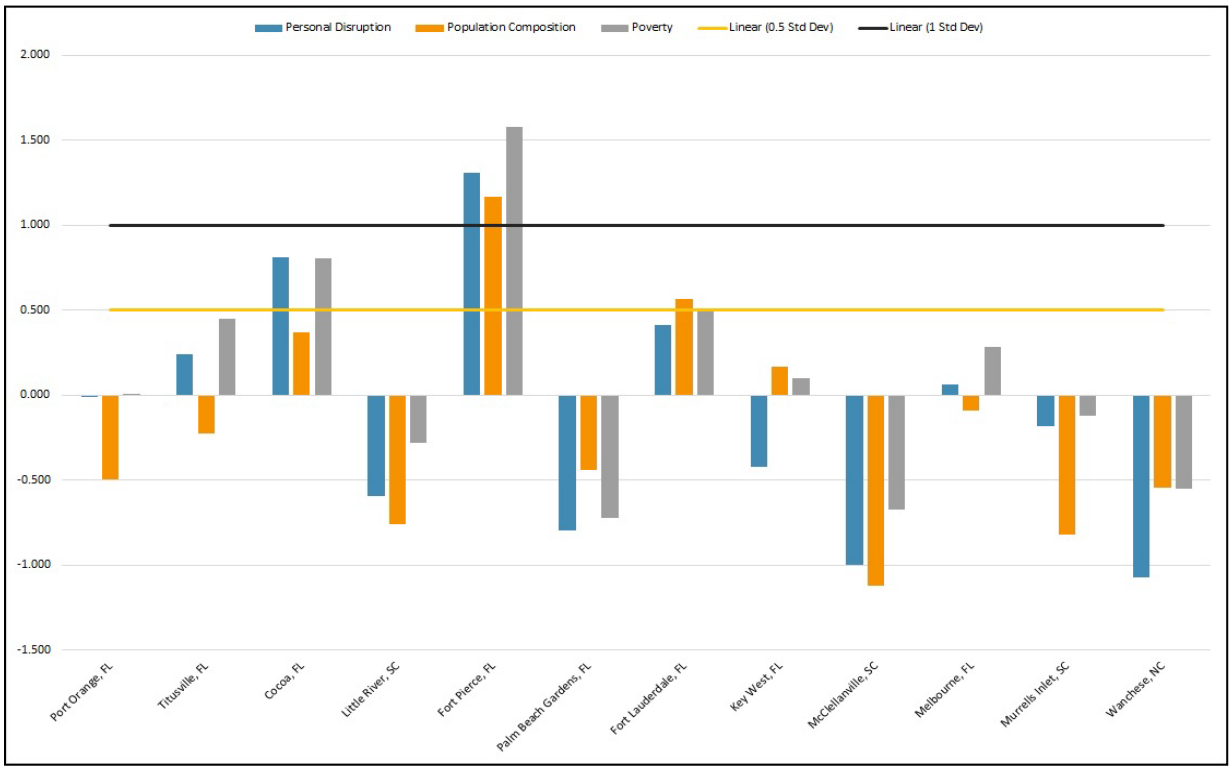

Figure 3.4.5. Socioeconomic vulnerability measures for communities most extensively involved in the South Atlantic recreational snapper grouper fisheries. Source: SERO, CSVI Database.

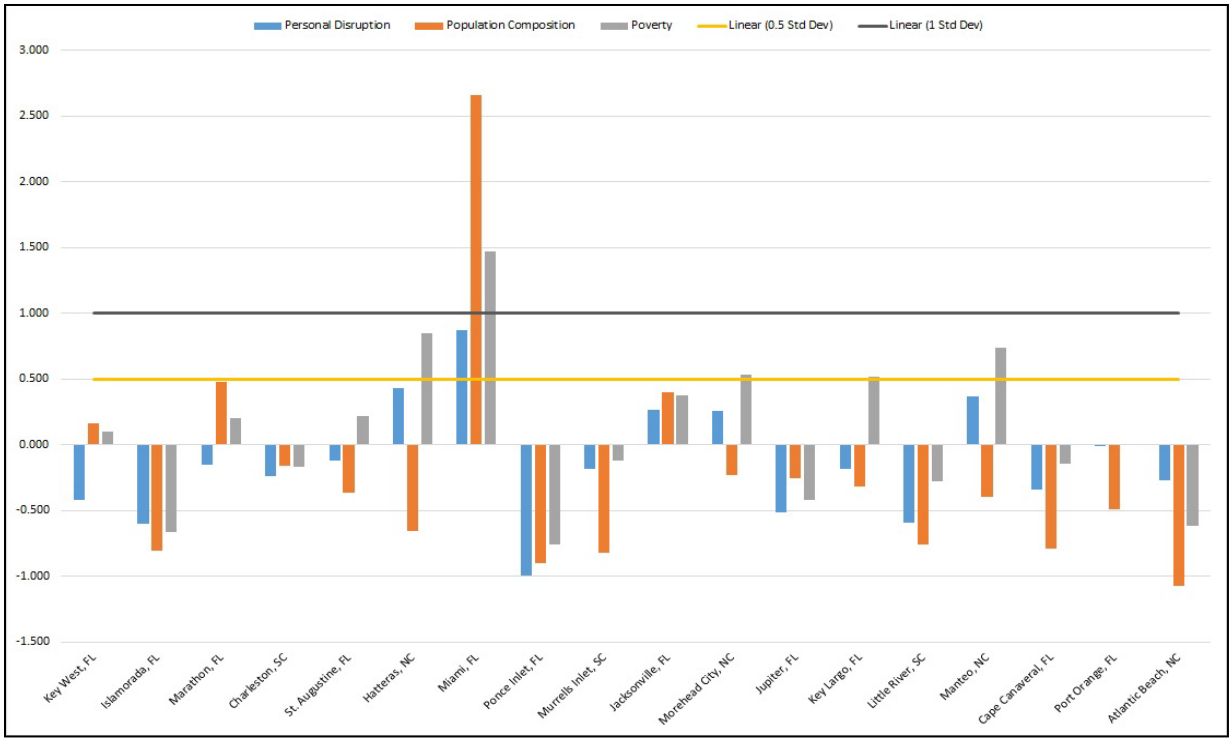

Figure 3.4.6 Socioeconomic vulnerability measures for communities most extensively involved in the South Atlantic recreational snapper grouper fisheries. Source: SERO CSVI Database.

3.5 Administrative Environment

3.5.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the 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 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 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 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 (USCG), State Department, and Atlantic States Marine Fisheries Commission (ASMFC). The Council has adopted procedures whereby the non-voting members serving on the Council Committees have full voting rights at the Committee level but not at the full Council level. The Council also established two voting seats for the Mid-Atlantic Council on the South Atlantic Mackerel Committee. 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 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.

3.5.2 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 Environmental Quality. The Marine Resources Division of the South Carolina Department of Natural Resources manages South Carolina's marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Division of Marine Fisheries Management 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 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 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 complementary state regulations to conserve coastal species. The ASFMC is also represented at the Council but does not have voting authority at the 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.

3.5.3 Enforcement

Both the NMFS Office for Law Enforcement (NOAA/OLE) and the USCG have the authority and the responsibility to enforce 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 Schedule is available online at http://www.gc.noaa.gov/enforce-office3.html.

Chapter 4. Environmental Effects and Comparison of Alternatives

4.1 Action 1. Revise the overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield for golden tilefish to reflect the new overfishing limit and updated acceptable biological catch recommendations

4.1.1 Biological Effects

Expected effects to golden tilefish and co-occurring species

Alternative 1 (No Action) would ignore the acceptable biological catch (ABC) and overfishing limit (OFL) recommendations of the Scientific and Statistical Committee (SSC) and the most recent stock assessment; and in doing so would no longer be based on best scientific information available (BSIA) and, therefore, is not a viable alternative.

Relative to **Alternative 1 (No Action)**, **Preferred Alternative 2** through **Alternative 4** are viable alternatives because they do not exceed the SSC recommended ABCs and would be expected to result in neutral iological effects to the golden tilefish stock.

All of the action alternatives will result in higher ACLs than the status quo. The acceptable biological catch, total annual catch limit, and annual optimum yield would increase annually until 2026 and remain in place after 2026 until modified. The recommended acceptable biological catch includes recreational estimates from the Marine Recreational Information Program's Fishing Effort Survey.

Alternatives*

1 (No Action). The total annual catch limit and annual optimum yield for golden tilefish are equal to the current acceptable biological catch.

2. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to the recommended acceptable biological catch.

3. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to 95% of the recommended acceptable biological catch.

4. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to 90% of the recommended acceptable biological catch.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

The NMFS March 2022 Quarterly Update on the Report to Congress on the Status of U.S. Fisheries indicates that golden tilefish in the South Atlantic is not undergoing overfishing and is not overfished. Increasing golden tilefish catch levels as proposed in this amendment would not be expected to result in negative biological impacts since overall catch would be constrained to the ACL and accountability measures (AMs) would prevent the ACL and OFL from being exceeded, correct for overages if they occur (if the stock is

in an overfished condition), and prevent overfishing. In addition, the proposed increase in the total ACL for golden tilefish is based on the SSC's recommended ABC for golden tilefish in the South Atlantic region. SEDAR 66 (2021) indicates that the golden tilefish ACL can be increased without having negative effects on the sustainability of the stock. Furthermore, since the magnitude of the proposed increase in the ACL is small a substantial increase in fishing effort is not expected.

Preferred Alternative 2 would result in the least biological benefit to the golden tilefish as there would be no buffer between the ABCs and the total ACLs. Biological benefits resulting from **Alternatives 3** and **4** would increase as the buffer increases. Although **Preferred Alternative 2** would allow the greatest amount of harvest of the action alternatives considered, it is based on the SSC's ABC recommendation and BSIA and represents a catch level that does not result in overfishing.

Substantial changes in fishing effort or behavior are not expected as a result of this action, thus the modifications to ACL and OY proposed ACLs under this action would not be expected to result in any biological effects, positive or negative, on co-occurring species or protected species in the area (refer to BPA in Appendix G).

4.1.2 Economic Effects

In general, total ACLs that allow for more fish to be landed can result in increased positive economic effects if harvest increases without notable long-term effects on the health of a stock. The ACL does not directly impact the fishery for a species unless harvest changes, fishing behavior changes, or the ACL is exceeded, thereby potentially triggering AMs such as harvest closures or other restrictive measures. As such, ACLs that are set above the observed landings in the fishery for a species and do not change harvest or fishing behavior may not have realized economic effects each year. Nevertheless, ACLs set above observed harvest levels do create a gap between the ACL and typical landings that may be utilized in years of exceptional abundance or accessibility to a species, thus providing the opportunity for increased landings and a reduced likelihood of triggering restrictive AMs. As such, there are potential economic benefits from ACLs that allow for such a gap. The opposite is true for ACLs that constrain harvest or fishing effort within a fishery or reduce the previously described gap between average landings and the ACL.

As noted in Section 4.1.1, **Alternative 1 (No Action)** is not a viable alternative. Although not viable since it does not implement BSIA, **Alternative 1 (No Action)** would be expected to be constraining on harvest when compared to recent 5-year average landings. The ACL is set equal to the ABC in **Alternative 1 (No Action)** and **Preferred Alternative 2**, with the differences between the two in part occurring due to the current versus updated ABC and how the non-headboat recreational component of the total ACL would be accounted for moving forward. Specifically, the current ABC is inclusive of CHTS terms to account for private recreational and charter landings while the updated ABC would be inclusive of FES terms for these landings. Projections that allow for conversion between both units for the recreational sector are not available, as there is no forward-looking conversion between the two terms. As such, a direct comparison of **Alternative 1 (No Action)** to **Preferred Alternative 2** is not possible. This

applies to comparisons of **Alternative 1 (No Action)** to **Alternatives 3** and **4** as well since these two alternatives also incorporate the updated ABC and thus FES terms. As a proxy for the status quo (**Alternative 1 (No Action)**), the five-year (2015/16 - 2019/20) average landings of golden tilefish are compared to **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** to estimate the economic effects of each alternative.

The potential revised total ACLs for golden tilefish when implemented in **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** would be constraining on harvest (Table 4.1.2.1; Table 4.1.2.2). **Alternative 4** would provide the lowest total ACL, thus would be expected to most severely limit harvest and there would be elevated negative economic effects anticipated from this alternative. **Alternative 3** offers a comparatively higher ACL and **Preferred Alternative 2** would provide the highest ACL. From an economic benefits perspective, **Preferred Alternative 2** would provide the highest potential economic benefits of the viable alternatives being considered followed by **Alternative 3** and **Alternative 4** (Table 4.1.2.2).

Table 4.1.2.1 South Atlantic golden tilefish landings for fishing years 2016-2020[a].

Fishing Year	Commercial landings (lbs gw)	Recreational landings[a] (lbs gw)	Total landings (lbs gw)
2016	524,147	66,638	590,785
2017	516,435	15,185	531,620
2018	290,284	47,742	338,026
2019	352,072	344,321	696,393
2020	329,689	41,133	370,822
5-year average	402,525	103,004	505,529

[a]Recreational landings based on MRIP- FES terms. Assumes a conversion ratio of 1.06 to convert pounds whole weight to pounds gutted weight (SEDAR 66)

Table 4.1.2.2 Percent difference between the total ACL in Action 1 compared to 5-year average landings from fishing years 2016-2020[a].

Fishing Year	Percent difference between the ACL and 5-year average annual landings for Preferred Alternative 2	Percent difference between the ACL and 5-year average annual landings for Alternative 3	Percent difference between the ACL and 5-year average annual landings for Alternative 4
2023	-14%	-18%	-23%
2024	-11%	-16%	-20%
2025	-9%	-14%	-18%
2026+	-8%	-12%	-17%

[a]**Alternative 1 (No Action)** is tracked in part using CHTS estimates for charter and private recreational landings while **Alternatives 2 (Preferred)** through **4** would be tracked in part using FES estimates for charter and private recreational landings. As such, the economic effects of **Alternative 1 (No Action)** cannot be directly compared in a quantitative manner to the other alternatives since the accounting methods used to track the CHTS and FES are vastly different and are not forward projecting. Thus, **Alternative 1 (No Action)** cannot be considered in this analysis.

The estimated change in potential landings by sector under **Preferred Alternative 2** through **Alternative 4** are provided in Table 4.1.2.3 and Table 4.1.2.5. Table 4.1.2.4 and Table 4.1.2.6 show the resulting estimated change in net economic benefits by sector and Table 4.1.2.7 shows the estimated change in net economic benefits for **Action 1** in aggregate for both sectors combined. In the 2023 fishing year, **Preferred Alternative 2** is estimated to result in an increase in potential net economic benefits of $153,247 for the commercial sector, a decrease in potential net economic benefits of $962,001 for the recreational sector, and a decrease in potential net economic benefits of $808,754 for both sectors combined (2020 $). By the 2026 fishing year and beyond, **Preferred Alternative 2** is estimated to result in an increase in potential net economic benefits of $212,548 for the commercial sector, a decrease in potential net economic benefits of $950,914 for the recreational sector, and decrease in potential net economic benefits of $738,366 for both sectors combined (2020 $).

Table 4.1.2.3. Estimated change in potential landings (lbs gw) to the commercial sector from Action 1.

Fishing Year	Preferred Alternative 2	Alternative 3	Alternative 4
2023	77,468	56,436	35,404
2024	90,039	68,378	46,717
2025	99,709	77,565	55,420
2026+	107,445	84,914	62,383

Table 4.1.2.4. Estimated change in potential net economic benefits to the commercial sector (PS) from Action 1 (2020 $).

Fishing Year	Preferred Alternative 2	Alternative 3	Alternative 4
2023	$153,247	$111,641	$70,035
2024	$178,115	$135,266	$92,416
2025	$197,244	$153,438	$109,633
2026+	$212,548	$167,977	$123,406

Table 4.1.2.5. Estimated change in potential landings (numbers of fish) to the recreational sector from Action 1.

Fishing Year	Preferred Alternative 2	Alternative 3	Alternative 4
2023	-15,791	-15,919	-16,162
2024	-15,715	-15,847	-16,097
2025	-15,656	-15,791	-16,047
2026+	-15,609	-15,746	-16,007

Table 4.1.2.6. Estimated change in potential net economic benefits to the recreational sector (CS) from Action 1 (2020 $).

Fishing Year	Preferred Alternative 2	Alternative 3	Alternative 4
2023	-$962,001	-$969,796	-$984,606
2024	-$957,371	-$965,397	-$980,647

2025	-$953,777	-$961,983	-$977,574
2026+	-$950,914	-$959,263	-$975,126

Table 4.1.2.7. Estimated change in potential net economic benefits (recreational and commercial combined) from Action 1 (2020 $)[a].

Fishing Year	Preferred Alternative 2	Alternative 3	Alternative 4
2023	-$808,754	-$858,155	-$914,570
2024	-$779,256	-$830,132	-$888,231
2025	-$756,532	-$808,544	-$867,941
2026+	-$738,366	-$791,286	-$851,720

[a]**Alternative 1 (No Action)** is tracked in part using CHTS estimates for charter and private recreational landings while **Alternatives 2 (Preferred)** through **4** would be tracked in part using FES estimates for charter and private recreational landings. As such, the economic effects of **Alternative 1 (No Action)** cannot be directly compared in a quantitative manner to the other alternatives since the accounting methods used to track the CHTS and FES are vastly different and are not forward projecting. Thus, **Alternative 1 (No Action)** cannot be considered in this analysis.

Assumptions used in calculating these estimates include application of the status quo allocation of the total ACL (97% commercial, 3% recreational) to the new ACL for each alternative to estimate economic benefits. This allocation is then compared to the baseline scenario (i.e. a proxy for **Alternative 1 (No Action))** to determine the gap between the baseline scenario and the ACL by sector under the assumption that both sectors would fully harvest their respective ACLs. For the commercial sector, the current sector ACL of 343,117 lbs gw is used as the baseline scenario since the units measuring this portion of the total ACL are not changing due to this action. For the recreational sector, 5-year average landings (2016-2020; 18,350 fish) in FES terms are used as the baseline scenario since a forward looking conversion of CHTS and FES units is not available that would allow direct comparison of the current recreational sector ACL under **Alternative 1 (No Action)**, which is in CHTS terms, to the resulting new recreational sector ACL under **Alternatives 2 (Preferred)** through **4**.

To estimate the change in potential net economic benefits for the commercial sector, the difference in the current and potential future commercial portion of the total ACL applied to the appropriate price ($4.71/lbs gw; Tables 3.3.1.2 and 3.3.1.3) along with a scaling factor of 42% of gross revenue (Section 3.3.1; NMFS SEFSC, pers. comm. 2022) to estimate PS for the commercial sector. Although there are no currently available estimates of the demand elasticity for golden tilefish, it is assumed that there would be no expected change to consumer surplus from the commercial perspective since there is likely a high degree of substitutability of golden tilefish for other species.

To estimate net economic benefits for the recreational sector, a consumer surplus (CS) estimate of $60.92 for the second grouper kept on a recreational trip is used (2020 $; Section 3.3.2). This marginal value estimate is used as a proxy value since one is not currently available specifically for golden tilefish. A weight of 5.95 lbs ww per golden tilefish is used to convert the recreational portion of the buffer from lbs ww to numbers of fish (SEDAR 66). It is assumed that changes in the recreational portion of the total ACL would only affect catch per trip and not the overall number of trips taken. This includes no direct change to for-hire fishing activity and

thus no change in direct economic effects for the for-hire component of the recreational sector. As such, there are no estimated changes in producer surplus (PS) provided for the recreational sector.

4.1.3 Social Effects

The OFL, ABC, and ACL for any stock does not directly affect resource users unless the ACL is met or exceeded, in which case AMs that restrict, or close harvest could negatively impact the commercial, for-hire, and private recreational sectors. AMs can have significant direct and indirect social effects because, when triggered, can restrict harvest in the current season or subsequent seasons. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects, such as increased pressure on another species, or fishermen having to stop fishing altogether due to regulatory closures. However, restrictions on harvest contribute to sustainable management goals, and are expected to be beneficial to fishermen and their communities in the long term. Generally, the higher the ACL, the greater the short-term social benefits that would be expected to accrue if harvest is sustainable.

Communities that would be most affected by changes to the OFL, ABC, and ACL for golden tilefish are detailed in Section 3.4. Historically, commercial golden tilefish landings have been highest in the state of Florida, specifically Port Orange, Titusville, Cocoa, and Fort Pierce, Florida.

Under **Preferred Alternative 2**, **Alternative 3**, and **Alternative 4** the ACL for golden tilefish would be based on the most recent stock assessment and updated MRIP estimates. Adjustments in an ACL based on updated information are necessary to ensure continuous social benefits over time. Specifically, updated information ensures the sustainability of fishing activities which can stabilize business operations and planning for the future. **Alternative 1 (No Action)** would not update the golden tilefish ACL based on current information and would not provide the social benefits associated with up-to-date scientific information.

In general, a higher ACL would lower the chance of triggering a recreational or commercial AM and result in the lowest level of negative effects on the recreational and commercial sectors. Additionally, higher ACLs may provide opportunity for commercial and recreational fishermen to expand their harvest providing social benefits associated with increased income to fishing businesses within the community and higher trip satisfaction. Among the action alternatives, **Preferred Alternative 2** would be the most beneficial for fishermen, followed by **Alternative 3**, and **Alternative 4**.

4.1.4 Administrative Effects

Modifying the total ACL and annual OY for golden tilefish through **Preferred Alternative 2** through **4** would not have effects on the administrative environment, outside of the requisite public notices. Under all of the action alternatives, the ACL will increase so the likelihood of exceeding the ACL and requiring in-season (if overfished) or post season AMs will be reduced

from the status quo. The overall administrative effects are likely going to be minimal and the same across the viable alternatives.

4.2 Action 2. Revise sector allocations and sector annual catch limits for golden tilefish

4.2.1 Biological Effects

Biological effects are not expected to be substantially different between **Alternative 1 (No Action)** and **Preferred Alternative 2**, since the allocation percentages would be similar and do not affect the total ACL specified in Action 1. The commercial sector has effective in-season AMs in place to prevent the commercial ACL from being exceeded.

Golden tilefish are most likely to be captured with species such as yellowedge grouper, warsaw grouper, snowy grouper, silk snapper, and wreckfish. However, many of the overlapping occurrences for these species with golden tilefish were minimal except for yellowedge grouper. Substantial changes in fishing effort or behavior are not expected as a result of this action, thus the proposed sector and gear type allocations under this action would not be expected to result in any biological effects, positive or negative, on co-occurring species (refer to BPA in Appendix G).

Alternatives*

1 (No Action) Retain the current recreational sector and commercial sector allocations as 3.00% and 97.00%, respectively, of the revised total annual catch limit for golden tilefish.

2. Allocate 96.70% of the revised total annual catch limit for golden tilefish to the commercial sector and 3.30% of the revised total annual catch limit for golden tilefish to the recreational sector. Note: Within the commercial sector 25% is allocated to hook and line (HL) component and 75% to the longline (LL) component.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

4.2.2 Economic Effects

In general, sector ACLs that allow for more fish to be landed can result in increased positive economic effects if harvest increases without notable long-term effects on the health of a stock. The sector ACL does not directly impact the fishery for a species unless harvest changes, fishing behavior changes, or the sector ACL is exceeded, thereby potentially triggering AMs such as harvest closures or other restrictive measures. As such, sector ACLs that are set above observed landings in a fishery for a species and do not change harvest or fishing behavior may not have realized economic effects each year. Nevertheless, sector ACLs set above observed average harvest levels do create a gap between the sector ACL and typical landings that may be utilized in years of exceptional abundance or accessibility of a species, thus providing the opportunity for increased landings and a reduced likelihood of triggering restrictive AMs. As such there are potential economic benefits from sector ACLs that allow for such a gap.

Commercial Sector

Alternative 1 (No Action) would maintain the current commercial allocation of 97.00% of the total ACL. **Preferred Alternative 2** would result in comparatively lower commercial sector allocation and sector ACL (96.70% of the total ACL). Although all of the commercial ACL alternatives in **Action 2** are higher than the current sector ACL of 343,117 lbs gw and 5-year average landings (2016 through 2020; 402,525 lbs gw), it is assumed that the commercial sector could fully harvest its ACL and there would be fewer potential landings of golden tilefish under **Preferred Alternative 2** relative to **Alternative 1 (No Action)**(Table 4.2.2.1). These relatively

reduced landings would be expected to comparatively decrease total potential PS for the commercial sector. When compared to **Alternative 1 (No Action)**, **Preferred Alternative 2** would result in an estimated reduction in PS of $2,582 in 2023 and a reduction in PS of $2,766 by fishing year 2026 (2020 $) (Table 4.2.2.2).

Table 4.2.2.1 Percent difference between the commercial sector ACLs in Action 2 compared to 5-year average landings of golden tilefish from 2016-2020 and comparison of sector ACLs.

Fishing Year	Commercial sector ACL (lbs gw)	Percent difference between 5-year average landings and the sector ACL	Difference from Alternative 1 (No Action) sector ACL (lbs gw)
Alternative 1 (No Action)			
2023	421,950	5%	-
2024	434,560	8%	-
2025	444,260	10%	-
2026+	452,020	12%	-
Preferred Alternative 2			
2023	**420,645**	**5%**	**-1,305**
2024	**433,216**	**8%**	**-1,344**
2025	**442,886**	**10%**	**-1,374**
2026+	**450,622**	**12%**	**-1,398**

[a]Assumes the total ACL in Preferred Alternative 2 of Action 1 to determine the sector ACL.

Table 4.2.2.2. Estimated change in potential net economic benefits for the commercial sector (PS) from the alternatives in Action 2 compared to Alternative 1 (No Action) (2020 $).

Fishing Year	Preferred Alternative 2
2023	**-$228,790**
2024	**-$199,422**
2025	**-$191,000**
2026+	**-$188,877**

Assumptions used in calculating the estimates in Table 4.2.2.2 include a comparison of the sector ACL in **Alternative 1 (No Action)** to the appropriate sector ACL resulting from the other alternative. To estimate the change in potential net economic benefits, the difference in lbs gw is applied to the appropriate price ($4.71/lbs gw; Tables 3.3.1.2 and 3.3.1.3) along with a scaling factor of 42% of gross revenue (Section 3.3.1; NMFS SEFSC, pers. comm. 2022) to estimate PS for the commercial sector. Although there are no currently available estimates of the demand elasticity for golden tilefish, it is assumed that there would be no expected change to consumer surplus from the commercial perspective since there is likely a high degree of substitutability of golden tilefish for other species. The total ACL for which the sector ACLs are based upon is derived from Preferred Alternative 2 in Action 1.

Recreational Sector

Alternative 1 (No Action) would maintain the current recreational allocation of 3.00% of the total ACL. **Preferred Alternative 2** would result in a comparatively higher recreational sector allocation and sector ACL (3.30% of the total ACL.) The recreational ACLs in **Action 2** are estimated to be constraining based on the average annual landings over the last five years of available data (Table 4.2.2.3), and it is assumed that the recreational sector could fully harvest its ACL if conditions allowed. There would be higher potential landings of golden tilefish under **Preferred Alternative 2** relative to **Alternative 1 (No Action)**. These relatively increased landings would be expected to comparatively increase total CS for the recreational sector. When compared to **Alternative 1 (No Action)**, **Preferred Alternative 2** would result in an estimated increase in CS of $14,194 in fishing year 2023 and an increase in CS of $15,169 by fishing year 2026 (2020 $)(Table 4.2.2.4).

Table 4.2.2.3. Percent difference between the recreational sector ACLs in Action 2 compared to 5-year average landings of golden tilefish from 2016-2020 and comparison of sector ACLs.

Fishing Year	Recreational sector ACL (lbs ww)	Percent difference between 5-year average landings and the sector ACL	Difference from Alternative 1 (No Action) (#s of fish)
Alternative 1 (No Action)			
2023	2,326	-87%	-
2024	2,396	-87%	-
2025	2,449	-87%	-
2026+	2,492	-86%	-
Preferred Alternative 2			
2023	**2,559**	**-86%**	**233**
2024	**2,635**	**-86%**	**239**
2025	**2,694**	**-85%**	**245**
2026+	**2,741**	**-85%**	**249**

[a]Assumes the total ACL in Preferred Alternative 2 of Action 1 to determine the sector ACL.

Table 4.2.2.4. Estimated change in potential net economic benefits for the recreational sector (CS) from the alternatives in Action 2 compared to Alternative 1 (No Action) (2020 $).

Fishing Year	Preferred Alternative 2
2023	**$14,194**
2024	**$14,560**
2025	**$14,925**
2026+	**$15,169**

Assumptions used in calculating the estimates in Table 4.2.2.4 include a comparison of the sector ACL in **Alternative 1 (No Action)** to the appropriate sector ACL resulting from the other alternative in numbers of fish. To estimate the change in potential net economic benefits, a consumer surplus (CS) estimate of $60.92 for the second grouper kept on a recreational trip is used (2020 $; Section 3.3.2). This marginal value estimate is used as a proxy value since one is not currently available specifically for golden tilefish. It is assumed that changes in the

recreational portion of the total ACL would only affect catch per trip and not the overall number of trips taken. This includes no direct change to for-hire fishing activity and thus no change in direct economic effects for the for-hire component of the recreational sector. As such, there are no estimated changes in producer surplus (PS) provided for the recreational sector.

Total

In general, higher ACLs create a larger gap between the sector ACL and observed landings which allows for increased harvest when fishery conditions allow, thereby increase net economic benefits. Thus under this notion, the alternatives in **Action 2** can be ranked for the commercial sector from a short-term economic perspective with **Alternative 1 (No Action)** resulting in the highest potential benefits followed by **Preferred Alternative 2**. For the recreational sector, the ranking would be the opposite with **Preferred Alternative 2** resulting in the highest potential benefits followed by **Alternative 1 (No Action)**. In terms of total estimated net economic benefits for the action, the same ranking would apply as stated for the recreational sector. In comparison to **Alternative 1 (No Action)**, **Preferred Alternative 2** would increase net economic benefits by $11,613 in the 2023 fishing year (Table 4.2.2.5)(2020 $).

Table 4.2.2.5. Estimated change in potential net economic benefits from the Preferred Alternative 2 compared to Alternative 1 (No Action) (2020 $).

Fishing Year	Preferred Alternative 2
2023	**$11,613**
2024	**$11,901**
2025	**$12,207**
2026+	**$12,404**

4.2.3 Social Effects

Sector allocations exist for the recreational and commercial sectors already. **Alternative 1 (No Action)** would maintain the current allocation percentages and may have few social effects. With **Preferred Alternative 2,** there would be a less than 1% decrease in the commercial percentage compared to **Alternative 1 (No Action)**. While this change in percentage is negligible, some negative social effects may occur if commercial fishermen have a negative perception of this change. In the past, there has been some resistance to further decreasing a given sector's percentage allocation.

It is difficult to predict the social effects with any allocation scheme as it would depend upon other actions in conjunction with this one. A reduction in allocation for one sector may be compounded by a restrictive choice of ABC or ACL (**Action 1**) and may have further effects that could be either negative or positive depending upon the combination of management actions. Therefore, the choice of an allocation would need to be assessed with other actions within this amendment to determine the overall social effects and whether short-term losses are offset by any long-term biological gains. However, based on recent landings of golden tilefish (2018-2021) and assuming Action 1 – Preferred Alternative 2, no closures are expected under **Alternative 1 (No Action)** or **Preferred Alternative 2** for the time period of January 1 through

June 30 for the hook and line component of the commercial sector. Alternatively, the longline component of the commercial sector is anticipated to close early to mid-March (**Appendix F**).

4.2.4 Administrative Effects

Administrative effects would not vary between **Alternative 1 (No Action)** and **Preferred Alternative 2**. The overall administrative effects are likely going to be minimal and the same across the viable alternatives. Administrative burdens would relate to data monitoring, outreach, and enforcement of a short fishing season. Other administrative burdens that may result would take the form of development and dissemination of outreach and education materials for fishery participants and law enforcement.

4.3 Action 3. Modify the fishing year for commercial golden tilefish hook and line and longline components

4.3.1 Biological Effects

Alternatives*

1. (No Action). Do not modify the fishing year for the commercial sector. Current fishing year for both sectors is January 1- December 31.

2. Modify the fishing year for the commercial hook and line component.
   2a. Modify the fishing year for the commercial hook and line component to start January 15.
   2b. Modify the fishing year for the commercial hook and line component to start January 22.
   2c. Modify the fishing year for the commercial hook and line component to start February 1.

3. Modify the fishing year for the commercial longline component.
   3a. Modify the fishing year for the commercial longline component to start January 15.
   3b. Modify the fishing year for the commercial longline component to start January 22.
   3c. Modify the fishing year for the commercial longline component to start February 1.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

The actions proposed would have a minimal biological effect to the golden tilefish stock because they do not significantly change the fishing year. **Alternative 2** and **Alternative 3** and associated sub-alternarives would shift the start date of the fishing year for the commercial hook and line or the longline components by two, three or four weeks. Fishery participants indicated that with a staggered start between the longline and hook and line component, they will be better able to meet market demand.

Regardless of the alternative selected, this action is not anticipated to have negative biological impacts on golden tilefish. The commercial sectors are constrained by ACLs (as determined in Action 1 and sector allocations as set in Action 2) and AMs. There is not expected to be any difference in the biological impacts of **Alternative 1 (No action)** and **Alternative 2** and **Alternative 3** and associated sub-actions. None of the alternatives would modify the fishery in such a way that it would result in impacts to protected species.

4.3.2 Economic Effects

From a total harvest perspective, all of the alternatives in Action 3 would likely result in all of the commercial sector ACL being landed. There may be some economic benefits for both the commercial hook and line component (**Alternative 2**) starting at a different time than the commercial longline component (**Preferred Alternative 3)** if the start times vary which would presumably reduce the amount of golden tilefish being landed at any single time, thereby potentially avoiding oversupplying the market and leading to improved prices. Improved prices would lead to higher net operating revenue for commercial vessels. Additionally, a later start time for the commercial longline component would allow harvest to remain open later in the year which would allow vessels harvesting under the component to remain fishing for golden tilefish during Lent when prices tend to be relatively high. Under this notion, **Sub-alternative 3c** may offer the highest economic benefits followed by **Sub-alternative 3b**, and **Preferred Sub-alternative 3a** in comparison to **Alternative 1 (No Action).**

4.3.3 Social Effects

Golden tilefish is an important commercial species in Florida, particularly in central Florida (Port Orange, Titusville, Cocoa, and Fort Pierce). Changes to the fishing year for the commercial hook-and-line or the commercial longline components could change the level of access to the golden tilefish stock during periods when golden tilefish are available.

The effects on commercial fishermen and related businesses would be associated with access to golden tilefish stock during periods when the dockside price is highest, and if the commercial ACL is met and an early closure occurs. As described in Section 2.1, the commercial longline component is anticipated to close early under the new ABC and ACL (Action 1 and Action 2). Staggering the commercial hook and line (**Alternative 2**) and commercial longline (**Preferred Alternative 3**) seasons may reduce the number of fish on the market at a given time and increase the profitability of commercial longline businesses. It would also allow the longline fishery to remain open closer to Lent when prices for fish increase. Under this logic, the farther apart the two seasons the higher likelihood of avoiding low prices due to a flooded market, assuming golden tilefish are available in highly reliant communities at the time. **Sub-alternative 3c** would offset the hook and line and longline seasons the furthest followed by **Sub-alternative 3b**, **Preferred Sub-alternative 3a** and **Alternative 1 (No Action)**.

4.3.4 Administrative Effects

Administrative burdens for **Alternative 1 (No Action)**, **Alternative 2**, and **Alternative 3** would be similar and are expected to be minimal. Administrative burden would be associated with rule-making, education and outreach and enforcement.

4.4 Action 4. Modify recreational accountability measures for golden tilefish.

4.4.1 Biological Effects

Expected effects to golden tilefish and co-occurring species

Biological benefits would be expected to be greater for the alternative that provides the most timely and realistic option chosen to trigger and implement an AM.

Under **Alternative 1 (No Action)**, an in-season closure would likely not be triggered due to need for both the total and recreational ACL to be exceeded AND for the stock to be overfished. Golden tilefish are not overfished and as such the AM would not be triggered unless this status determination changes.

Alternative 2 would correct for recreational overages of the ACL in the following fishing season. There is no mechanism to prevent the recreational ACL from being exceeded in-season since the current in-season AM requires the stock to be overfished. As such, **Alternative 2** could have negative biological effects to the golden tilefish stock.

Preferred Alternative 3 would result in biological benefit to the stock in that it is likely to prevent in-season overages of the recreational ACL. However, this alternative would not correct for an overage if it were to occur due to an unforeseen increase in recreational effort.

Alternatives*

Alternative (No Action). If, recreational landings exceed the recreational ACL; golden tilefish is identified as overfished; AND the combined commercial and recreational ACL is exceeded in the same calendar year, recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 2. If recreational landings exceed the recreational ACL, recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 3. NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on January 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.

Biological benefits to the golden tilefish stock would be greatest under **Preferred Alternative 3**, followed by **Alternative 2** and **Alternative 1 (No Action)** relative to each other.

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4.4.2 Economic Effects

Recreational AMs typically consist of corrective measures that create short-term indirect negative economic effects by curtailing harvest and fishing activity when harvest has exceeded the sector ACL, thus potentially affecting net revenues of for-hire operations and CS on recreational fishing trips. In the long-term, these measures also help reduce the risk of

overfishing a stock to the point of depletion, which results long-term economic benefits through sustained harvest and fishing activity as well as the for-gone need for more stringent restrictive management measures that may be needed to rebuild a depleted stock.

Alternative 1 (No Action) would retain a post-season shortening of the season and a potential payback provision for an overage of the sector ACL that would reduce the sector ACL by the amount of the overage as long as golden tilefish are overfished. There would continue to be no safeguard in place outside of the existing season to prevent the total ACL from being exceeded. This could result in short-term economic benefits for the recreational sector due to increased harvest and long-term potential economic costs to fishery participants. If a reduced fishing season is implemented in Action 7, these potential economic effects would be largely mitigated. This alternative would not occur if the species is not overfished, therefore the economic effects are dependent on the status of the golden tilefish stock.

The economic effects of **Alternative 2** would likely be similar to those of **Alternative 1 (No Action)**, but the AM would occur regardless of the stock status, thus has a higher likelihood of occurring. **Preferred Alternative 3** would result in a fishing season that is announced annually with set start and end dates. This AM would limit overall long-term harvest of golden tilefish but could result in economic benefits that mitigate the short-term cost of the AM itself by allowing more time to adjust to the changing harvest regulations through a consistent announcement of the season length.

4.4.3 Social Effects

AMs can have direct and indirect social effects because, when triggered, can restrict harvest in the current season or subsequent seasons. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Those restrictions usually translate into reduced opportunity for harvest, which in turn can change fishing behaviors. Those behaviors can increase pressure on other stocks or amplify conflict. While these negative effects are usually short term, they may at times induce other indirect effects that can have a lasting effect on a community.

Alternative 1 (No Action) would not modify the current recreational AMs for golden tilefish (a season length reduction provision if overfished and stock ACL is exceeded). Inconsistent closure dates may make it challenging for for-hire businesses to plan their fishing activities. Overall, longer seasons result in increased fishing opportunities for the recreational sector and increased revenue opportunities for the for-hire sector. Reducing the season length is anticipated to result in direct negative social effects associated with loss of access to the resource.

Alternative 2, would reduce the following fishing season in response to landings exceeding the recreational ACL, but it does not include qualifying language stating that golden tilefish must identified as overfished; AND the combined commercial and recreational ACL must be exceeded in the same calendar year. As such, the fishing season may vary significantly from year to year due to changes in fishing behavior or environmental conditions. Inconsistent fishing seasons can

make it challenging for private anglers and for-hire business to plan their fishing activities through the long-term.

Alternatively, **Preferred Alternative 3** would have NMFS announce the length of the recreational season for golden tilefish in the *Federal Register* prior to the start date each year, with an end date corresponding to when the recreational ACL is projected to be met for that year. While the end date for golden tilefish may shift each year, announcing at the beginning of the season would allow private anglers and for-hire businesses to plan their activities around the closure in advance.

4.4.4 Administrative Effects

Administrative burdens such as data monitoring, rulemaking, outreach, and enforcement would be similar for **Alternative 1 (No Action)**, **Alternative 2**, and **Preferred Alternative 3**. If triggered, **Alternative 2** would require a season announcement notice for a reduced season length. **Preferred Alternative 3** would have NMFS announce the length of the recreational season for golden tilefish in the *Federal Register* prior to the start date each year, with an end date corresponding to when the recreational ACL is projected to be met for that year. There will be an increased administrative burden related to determining the season length.

4.5 Action 5. Modify blueline tilefish recreational bag limit.

4.5.1 Biological Effects

The percentage of trips by blueline tilefish harvest per person per day and by mode (Headboat, charter, and private) are shown in Figure 4.5.1.1 (including captain and crew), and Figure 4.5.1.2 (excluding captain and crew).

To explore the percent reduction in harvest to each component of the recreational sector, data from 2017 through 2021 were used (Table 4.5.1.1).

Alternatives*

1 (No Action). The current recreational blueline tilefish bag limit is 3 per person per day. Captains and crew of for-hire vessels with valid Federal South Atlantic Charter/Headboat Snapper Grouper Permits are allowed to retain bag limit quantities of all snapper grouper species during the open recreational season.

2. Reduce recreational blueline tilefish bag limit to 2 fish per person per day.

3. Reduce recreational blueline tilefish bag limit to 1 fish per person per day.

4. Do not allow retention of blueline tilefish by captain and crew.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in

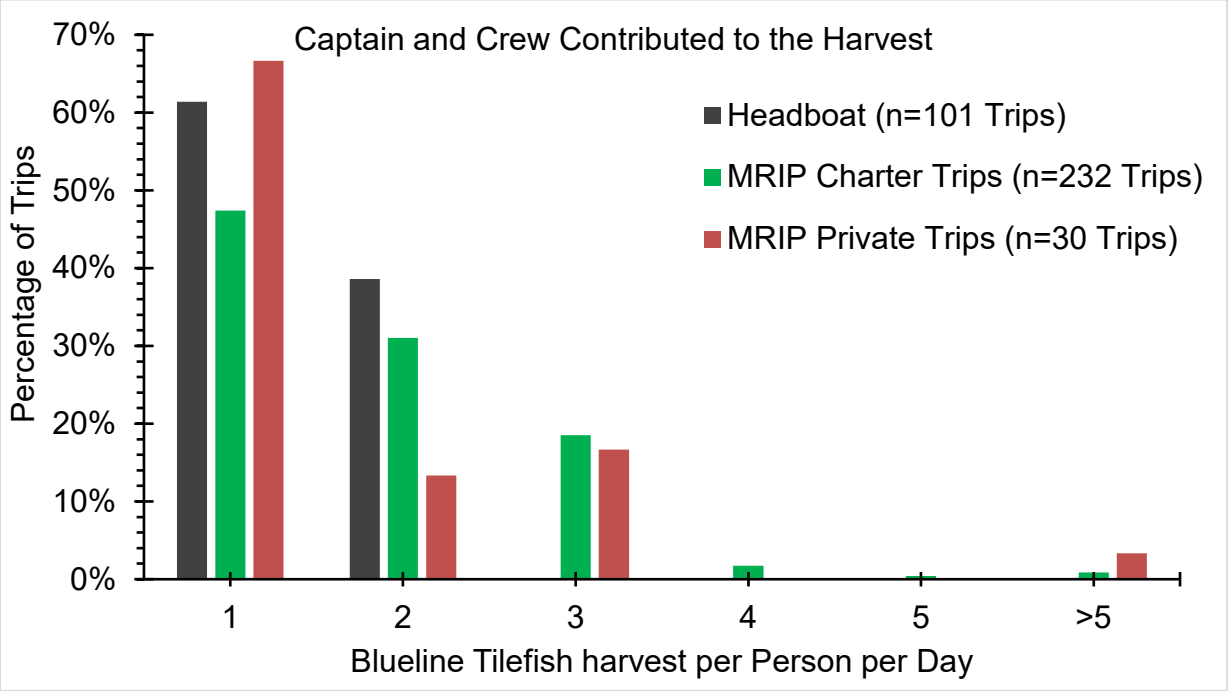

Figure 4.5.1.1. Percentage of trips for a range of South Atlantic blueline tilefish harvested per person by dataset and by mode.

Note: The harvest per person includes captain and crew to the contribution of the fish per person per day harvest. Data is from 2017 through 2021, and data from both Headboat and MRIP are provided.

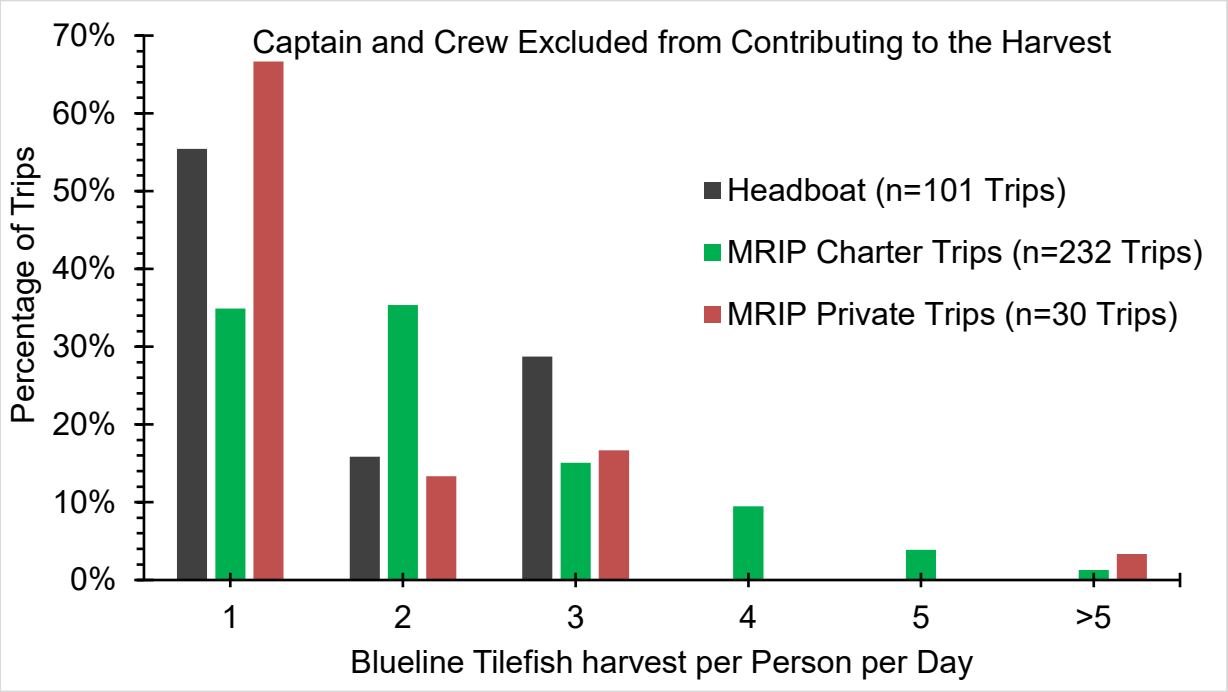

Figure 4.5.1.2. Percent of South Atlantic blueline tilefish harvested per person by dataset and mode.

Note: The harvest per person excludes captain and crew from contributing to the fish per person per day harvest. Data is from 2017 through 2021, and data from both Headboat and MRIP are provided.

In recent years the majority (about 72%) of the South Atlantic recreational blueline tilefish landings came from MRIP charter mode (Table 4.5.1.1). Percent reductions weighted by each mode's contribution to the landings are presented in Table 4.5.1.2.

Table 4.5.1.1 Percent of South Atlantic blueline tilefish recreational landings by mode during the open season from 2017 to 2021.

Mode	Percentage of Landings
MRIP Charter	71.6%
MRIP Private	1.9%
Headboat	26.6%

Note: The open season is May 1 through August 31. Percentages were based on the recreational landings in pounds whole weight.

Table 4.5.1.2 Adjusted percent reductions of South Atlantic blueline tilefish recreational landings.

Alternative	Adjusted Reductions
Alternative 1: 3 Fish per Person	0.0%
Preferred Alternative 2: 2 Fish per Person	**8.5%**
Alternative 3: 1 Fish per Person	35.1%
	3.7%

Preferred Alternative 4: No Retention for Captain and Crew	

Note: Adjusted percent reductions of South Atlantic blueline tilefish recreational landings. The percent reductions were adjusted by weighting the percent reductions by mode by the recreational landings for each mode during the open season from 2017 to 2021 (see Appendix F). Percentages are based on the recreational landings by mode in pounds whole weight.

This action would not change how or where the fishery is conducted and is not expected to have any impacts on protected species.

4.5.2 Economic Effects

Generally, angler satisfaction increases with the number of fish that can be harvested and the size of the fish. The smaller the bag limit the greater the probability that the satisfaction from an angler trip could be affected. Anglers tend to land two or fewer blueline tilefish on a single trip. Setting the bag limit at 2 fish **(Preferred Alternative 2)** or 1 fish per person (**Alternative 3)** would have greater negative economic effects on a trip-level due to constraining harvest and related CS. Removing a captain and crew bag limit (**Preferred Alternative 4**) may also constrain harvest leading to similar effects in comparison to **Alternative 1 (No Action)**. Conversely, more restrictive retention limits would allow for longer open harvest seasons. **Preferred Alternative 2** is estimated to result in an estimated decrease in CS of $273,922 and **Preferred Alternative 4** is estimated to result in an estimated decrease in CS of $119,268 (Table 4.5.2.1).

Table 4.5.2.1 Estimated reduction in recreational harvest of blueline tilefish and associated reductions in CS.

Alternative	Estimated Reduction in Harvest (%)a	Estimated Reductions (#s of Fish)[b]	Estimated Reduction in CS (2020 $)[c]
Alternative 1 (No Action)	0.00%	-	-
Preferred Alternative 2	**8.50%**	**4,498**	**$273,993**
Alternative 3	35.10%	18,572	$1,131,430
Preferred Alternative 4	**3.70%**	**1,958**	**$119,268**

[a]Reductions are based upon Table 7 in Appendix F.
[b]Based on 5-year average landings in Table 3.2.3 and an average weight of 3.7 lbs ww per blueline tilefish.
[c]Based on a CS estimate of $60.92 which is for the second grouper kept on a recreational trip is used (2020 $; Section 3.3.2). This marginal value estimate is used as a proxy value since one is not currently available specifically for blueline tilefish.

4.5.3 Social Effects

In general, a reduction in the recreational bag limit (**Preferred Alternative 2** and **Alternative 3**) or prohibiting retention of fish by captain and crew (**Preferred Alternative 4**) may help slow the rate of harvest, lengthen a season, and prevent the ACL from being exceeded. However, bag and vessel limits that are too low may make fishing trips inefficient and lower angler satisfaction.

The higher bag limit under **Alternative 1 (No Action)** would likely have little effect on recreational fishermen in the short-term but could result in negative effects in the future if the recreational ACL is regularly exceeded. Slowing the rate of harvest and ensuring sustainable of harvest of the blueline tilefish stock would provide for long-term social benefits.

If slowing the rate of harvest and lengthening the season provides additional fishing opportunities to the recreational fishing communities, **Alternative 3** (35% reduction in landings) would be the most beneficial, followed by **Preferred Alternative 2** (8.5%), Preferred **Alternative 4** (3.7%), and **Alternative 1 (No Action)** (Appendix F).

4.5.4 Administrative Effects

Administrative burdens for **Alternative 1 (No Action)**, **Preferred Alternative 2**, **Alternative 3** and **Preferred Alternative 4** would be similar and are expected to be minimal. Administrative burden would be associated with rule-making, education and outreach and enforcement.

4.6 Modify blueline tilefish recreational season.

Alternatives*

1 (No Action). Do not modify the blueline tilefish recreational season. The current recreational season is May 1-August 31.

2. Modify blueline tilefish recreational season to May 1 through July 30.

3. Modify blueline tilefish recreational season to June 1 through August 31.

4. Modify blueline tilefish recreational season to May 1 through June 30.

5. Modify blueline tilefish recreational season to July 1 through August 31.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in

4.6.1 Biological Effects

Relative to **Alternative 1 (No Action)** the proposed alternatives could have a positive biological effect to the blueline tilefish stock because they would result in a shortened recreational fishing season. **Preferred Alternative 4** and **Alternative 5** would reduce the fishing season the most. However, blueline tilefish spawn from March to October, with peak activity occurring in May (Section 3.2.2.1). Therefore, all of the proposed alternatives are expected to have negative biological impacts on the stock as they all encompass some potion of the spawning season in the South Atlantic. Additionally, a shortened season could result in an increase in regulatory discards. Blueline tilefish are a deepwater species and consequently experience high release mortality.

Table 4.4.1.1 provides the blueline tilefish recreational landings (Headboat and MRIP CHTS landings) from 2016 through 2021 by two-month wave. See Appendix F for additional detail. Since March of 2015 Amendment 32 implemented the blueline tilefish recreational sector to only be open from May 1 through August 31, and Table 4.6.1.1 has this open season time period shaded in green. The summary recent recreational landings (Table 4.6.1.1) reveals that there is blueline tilefish harvest occurring outside of the current open season (May through August). Table 4.6.1.2 provides the percentage of recreational landings by year within and outside the current recreational season. The amount of blueline tilefish recreational landings harvested outside of the open season ranges from 1% to 38% per year (Table 4.6.1.2). From 2016 through 2021 about 9.8% of the blueline tilefish recreational landings occurred outside of the open season.

Table 4.6.1.1 South Atlantic blueline tilefish recreational landings by two-month wave from 2016 through 2021. The green shaded area is the open season when blueline tilefish harvset is legal. The landings are in pounds whole weight.

Year	Wave						
	Jan/Feb	Mar/Apr	May/Jun	July/Aug	Sep/Oct	Nov/Dec	Total
2016	10,376	2,919	15,336	156,976	391	0	185,998
2017	2,940	50,666	50,030	56,908	1,547	9,364	171,455
2018	268	4,133	34,173	71,544	346	0	110,463
2019	10,450	1,855	38,299	58,662	169	681	110,116
2020	0	1,020	46,893	340,258	0	14,631	402,802
2021	116	256	57,164	109,403	227	0	167,165

Table 4.6.1.2 Comparison of the South Atlantic blueline tilefish recreational landings that occur outside the open season against percentage of recreational landings from inside the open season by year. The open season is May 1 through August 31.

Year	% Landings Outside Open Season	% Landings from Open Season
2016	7.4%	92.6%
2017	37.6%	62.4%
2018	4.3%	95.7%
2019	11.9%	88.1%
2020	3.9%	96.1%
2021	0.4%	99.6%
2016-2021	9.8%	90.2%

Note: The "2016-2021" results is from summing the recreational landings from 2016 to 2021 and calculating the percentages.

Monthly recreational landings were used to generate three potential future recreational landings scenarios: 1) three year average of the most recent years of complete data (2019, 2020, and 2021), 2) five year average of the most recent years of complete data (2017 through 2021), and 3) the maximum landings in the last five years of complete data. The year with the maximum recreational landings in the last five years is 2020. The monthly landings are shown in Figure 4.6.1.1.

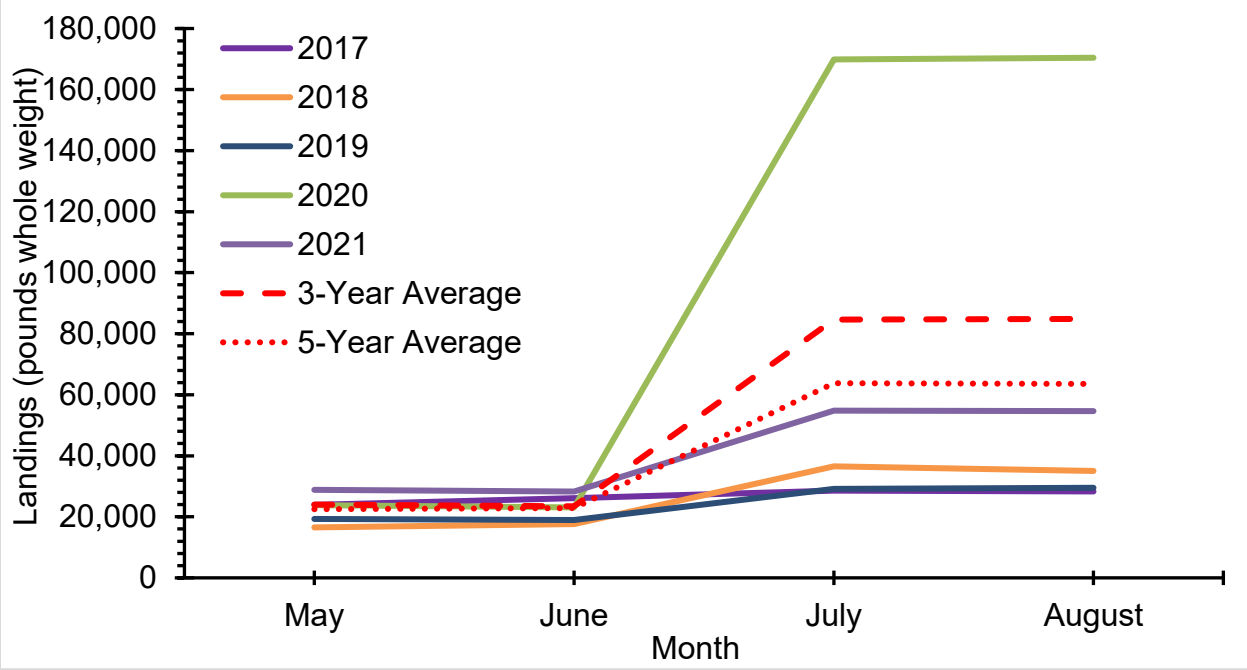

Figure 4.6.1.1 South Atlantic blueline tilefish recreational landings by month from 2017 through 2021, three-year average, and five year average for the open season.

Analyses were conducted to predict when the recreational landings would reach the current recreational ACL for three landings scenarios under the proposed recreational seasons and the proposed bag limit reduction in Action 6 (Table 4.6.1.3). No expected closures would be expected under a bag limit of 2 fish per person per day with no retention by captain and crew (Preferred Alternatives 2 and 4 in Action 6) for **Preferred Alternative 4** under this action (May-June season).

Table 4.6.1.3 The projected closure dates for the South Atlantic blueline tilefish recreational sector for the Amendment 52 action 7 open season alternatives with the impact of Action 6 bag limit Alternatives.

Open Season Alternatives	Closure Date		
	Scenario 1: 3-Year Average (2019-2021)	Scenario 2: 5-Year Average (2017-2021)	Scenario 3: Max Landings (2020)
Alternative 1: 3 Fish per Person per Day (Status Quo)			
1. May 1-August 31	26-Jul	4-Aug	13-Jul
2. May 1-July 30	26-Jul	None	13-Jul
3. June 1-August 31	4-Aug	15-Aug	18-Jul
4. May 1-June 30	None	None	None
5. July 1-August 31	12-Aug	26-Aug	22-Jul
Preferred Alternative 2: 2 Fish per Person per Day			
1. May 1-August 31	30-Jul	10-Aug	15-Jul
2. May 1-July 30	30-Jul	None	15-Jul
3. June 1-August 31	8-Aug	20-Aug	20-Jul
4. May 1-June 30	**None**	**None**	**None**
5. July 1-August 31	16-Aug	None	24-Jul
Alternative 3: 1 Fish per Person per Day			
1. May 1-August 31	18-Aug	None	25-Jul
2. May 1-July 30	None	None	25-Jul
3. June 1-August 31	27-Aug	None	29-Jul

4. May 1-June 30	None	None	None
5. July 1-August 31	None	None	2-Aug
Preferred Alternative 4: No Retention for Captain and Crew			
1. May 1-August 31	28-Jul	6-Aug	14-Jul
2. May 1-July 30	28-Jul	None	14-Jul
3. June 1-August 31	5-Aug	17-Aug	18-Jul
4. May 1-June 30	**None**	**None**	**None**
5. July 1-August 31	14-Aug	29-Aug	23-Jul

Note: The projected closure dates for the South Atlantic blueline tilefish recreational sector for the Amendment 52 Action 7 open season alternatives with the impact of the Action 6 bag limit Alternatives. The closure dates were generated from the three different landings scenarios of 1) three-year average of the most recent years of complete data, 2) five-year average of the most recent years of complete data, and 3) the maximum landings in the last five years of complete data. The closure dates were determined with cumulatively summing the recreational landings and comparing them to the ACL (116,820 lbs ww).

4.6.2 Economic Effects

Generally, prolonged time periods when recreational harvest is allowed can result in increased economic benefits. Allowing the recreational harvest to be open for longer periods of time can help ensure that the ACL is harvested each year and all associate economic benefits from that harvest to recreational anglers is incurred. Conversely, this also creates unpredictability in season length and when harvest will close if the accountability measure is triggered.

If the ACL is not fully harvested during the established season, it can lead to fewer short-term economic benefits, thus there is the potential for **Alternative 2**, **Alternative 3**, **Preferred Alternative 4,** and **Alternative 5** to have lower economic benefits than **Alternative 1 (No Action)**. **Alternative 1 (No Action)** provides the longest fishing season (4 months), thus the greatest opportunity to fully harvest the ACL and the highest potential short-term economic benefits, followed by **Alternative 2** and **Alternative 3** (three months), and **Preferred Alternative 3-4** and **Alternatives 4-5** (two months).

4.6.3 Social Effects

Imposing a recreational season could change the level of access to blueline tilefish during periods when they are available and when participation in the blueline tilefish portion of the snapper grouper fishery is highest. However, long-term biological benefits of maintaining a healthy stock would contribute to future fishing opportunities for both the commercial and recreational sectors.

The social effects of **Alternative 2**, **Alternative 3**, **Preferred Alternative 4**, and **Alternative 5** compared to **Alternative 1 (No Action)** would depend on when recreational effort is the highest for blueline tilefish. Generally, access to blueline tilefish for recreational participants will depend on the season length specified. Social benefits for individual communities highly engaged in the recreational blueline tilefish fishery (Section 3.4) will vary based on when participation in the fishery is the highest in that community. **Alternative 1 (No Action)** proposes the longest fishing season at four months, followed by **Alternative 2** and **Alternative 3** at three months, and **Preferred Alternative 4** and **Alternative 5** at two months. Considering **Action 5** – **Preferred Alternative 2** and **Alternative 4** and **Preferred Alternative 4** under the current action, a closure of the recreational season is not anticipated.

4.6.4 Administrative Effects

Alternative 2, Alternative 3, Preferred Alternative 4 and **Alternative 5** may cause temporary administrative burdens in the form of cost, time, or law enforcement efforts to react to the changes. However, since a recreational season is already in place, the effects to the administrative environment are not expected to be significant.

4.7 Action 7. Modify post-season recreational accountability measures for blueline tilefish.

4.7.1 Biological Effects

Expected effects to blueline tilefish and co-occurring species

Alternatives*

Alternative (No Action). If, recreational landings exceed the recreational ACL; blueline tilefish is identified as overfished; AND the combined commercial and recreational ACL is exceeded in the same calendar year, recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 2. If recreational landings exceed the recreational ACL, recreational landings will be monitored for a persistence in increased landings and if deemed necessary, in the following fishing year reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Preferred Alternative 3. NMFS will annually announce the length of the recreational fishing season based on catch rates from the previous season. The fishing season will start on January 1 and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met.

Biological benefits would be expected to be greater for the alternative that provides the most timely and realistic option chosen to trigger and implement an AM. This action is only modifying the mechanism whereby overages of the recreational ACL would be corrected while retaining the current in-season AM. The latter prohibits harvest once the recreational ACL is reached or is projected to be reached.

Under **Alternative 1 (No Action)**, the many triggers (recreational ACL and total ACL exceeded and the stock being overfished) would likely result in the post-season AM not being triggered. Based on SEDAR 50 (SAFMC 2017), blueline tilefish are not overfished or undergoing overfishing. As such the AM would not be triggered unless the overfished status determination changes.

Alternative 2 would allow for the correction of overages of the recreational ACL in the following fishing season without the total ACL also needing to be exceeded and the stock declared overfished. As such, this alternative would be more effective at correcting for overages. In combination with the current in-season AM, this alternative would be biologically beneficial to the blueline tilefish stock as it would prevent overfishing from occurring and correct for overages if they occur.

Alternative 3 would require that NMFS project the length of the recreational season based on previous data. However, if an unforeseen increase in recreational effort occurred rendering the season length projections inaccurate, this alternative could result in negative biological impacts as it would not correct for an overage if it occurred.

Biological benefits to blueline tilefish would be greatest under **Alternative 2**, followed by **Alternative 3** and **Alternative 1 (No Action)**.

4.7.2 Economic Effects

Recreational AMs typically consist of corrective measures that create short-term indirect negative economic effects by curtailing harvest and fishing activity when harvest has exceeded the sector ACL, thus potentially affecting net revenues of for-hire operations and CS on

recreational fishing trips. In the long-term, these measures also help reduce the risk of overfishing a stock to the point of depletion, which results long-term economic benefits through sustained harvest and fishing activity as well as the for-gone need for more stringent restrictive management measures that may be needed to rebuild a depleted stock.

Alternative 1 (No Action) would retain a post-season shortening of the season and a potential payback provision for an overage of the sector ACL that would reduce the sector ACL by the amount of the overage as long as blueline tilefish are overfished. There would continue to be no safeguard in place outside of the existing season to prevent the total ACL from being exceeded. This could result in short-term economic benefits for the recreational sector due to increased harvest and long-term potential economic costs to fishery participants. If a reduced fishing season is implemented in Action 7, these potential economic effects would be largely mitigated. This alternative would not occur if the species is not overfished, therefore the economic effects are dependent on the status of the blueline tilefish stock.

The economic effects of **Alternative 2** would likely be similar to those of **Alternative 1 (No Action)**, but the AM would occur regardless of the stock status, thus has a higher likelihood of occurring. **Alternative 3** would result in a fishing season that is announced annually with set start and end dates. This AM would limit overall long-term harvest of blueline tilefish but could result in economic benefits that mitigate the short-term cost of the AM itself by allowing more time to adjust to the changing harvest regulations through a consistent announcement of the season length.

4.7.3 Social Effects

AMs can have direct and indirect social effects because, when triggered, can restrict harvest in the current season or subsequent seasons. While the negative effects are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Those restrictions usually translate into reduced opportunity for harvest, which in turn can change fishing behaviors. Those behaviors can increase pressure on other stocks or amplify conflict. While these negative effects are usually short term, they may at times induce other indirect effects that can have a lasting effect on a community.

Alternative 1 (No Action) would not modify the current recreational AMs for blueline tilefish (a season length reduction provision if overfished and stock ACL is exceeded). Inconsistent closure dates may make it challenging for for-hire businesses to plan their fishing activities. Overall, longer seasons result in increased fishing opportunities for the recreational sector and increased revenue opportunities for the for-hire sector. Reducing the season length is anticipated to result in direct negative social effects associated with loss of access to the resource.

Alternative 2, would reduce the following fishing season in response to landings exceeding the recreational and total ACL, but it does include qualifying language stating that blueline tilefish must identified as overfished; AND the combined commercial and recreational ACL must be exceeded in the same calendar year. As such, the fishing season may vary significantly from

year to year due to changes in fishing behavior or environmental conditions. Inconsistent fishing seasons can make it challenging for private anglers and for-hire business to plan their fishing activities through the long-term.

Alternatively, **Alternative 3** would have NMFS announce the length of the recreational season for blueline tilefish in the *Federal Register* prior to the start date each year, with an end date corresponding to when the recreational ACL is projected to be met for that year. While the end date for blueline tilefish may shift each year, announcing at the beginning of the season would allow private anglers and for-hire businesses to plan their activities around the closure in advance.

4.7.4 Administrative Effects

Administrative burdens such as data monitoring, rulemaking, outreach, and enforcement would be similar for **Alternative 1 (No Action)**, **Alternative 2**, and **Alternative 3**. If triggered, **Alternative 2** would require a season announcement notice for a reduced season length. **Preferred Alternative 3** would have NMFS announce the length of the recreational season for blueline tilefish in the *Federal Register* prior to the start date each year, with an end date corresponding to when the recreational ACL is projected to be met for that year. There will be an increased administrative burden related to determining the season length.

Chapter 5. DRAFT Council's Rationale for the Preferred Alternatives

5.1 Action 1. Revise the overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield for golden tilefish to reflect the new overfishing limit and updated acceptable biological catch recommendations

5.1.1 Snapper Grouper Advisory Panel Comments and Recommendations

- Clarify that catch levels are dependent on when the amendment is implemented.
- Continued concern about uncertainty of recreational data, especially for deepwater species, and improving technology that allows more people to access them.

5.1.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.1.3 Scientific and Statistical Committee Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action.
To be updated following Fall SSC Meeting.

Alternatives*

1 (No Action). The total annual catch limit and annual optimum yield for golden tilefish are equal to the current acceptable biological catch.

2. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to the recommended acceptable biological catch.

3. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to 95% of the recommended acceptable biological catch.

4. Revise the total annual catch limit and annual optimum yield for golden tilefish and set them equal to 90% of the recommended acceptable biological catch.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

5.1.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

5.1.5 DRAFT Council's Rationale

To Be Completed.

5.1.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

This action does not directly address objectives in the Vision Blueprint.

5.2 Action 2. Revise sector allocations and sector annual catch limits for golden tilefish

Alternatives*

1 (No Action) Retain the current recreational sector and commercial sector allocations as 3.00% and 97.00%, respectively, of the revised total annual catch limit for golden tilefish.

2. Allocate 96.70% of the revised total annual catch limit for golden tilefish to the commercial sector and 3.30% of the revised total annual catch limit for golden tilefish to the recreational sector. Note: Within the commercial sector 25% is allocated to hook and line (HL) component and 75% to the longline (LL) component.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

5.2.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and provided comments including that clarify that catch levels are dependent on when the amendment is implemented and there was continued concern about uncertainty of recreational data, especially for deepwater species, and improving technology that allows more people to access them.

5.2.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.2.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action. **To be updated following Fall SSC Meeting.**

5.2.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

Summary of scoping comments pertaining to sector allocations and ACL:
Commentors generally support revision and increase of golden tilefish ACL. A couple commenters supported retaining the current allocation for golden tilefish of 97% commercial 3% recreational. One commentor supported increasing the commercial ACL considering the fishery off South Carolina and Cape Canaveral appears to be very healthy with fishermen seeing larges, jumbos, smalls, mediums all mixed together. One commentor supports raising the golden tilefish allowable catch considering that off South Carolina frequently catch their trip limit every time. One commentor made the following recommendations: use the current formulas to recalculate allocations and implement the conversion at the same time the quotas are updated based on MRIP FES; automate conversions of allocations from MRIP's CHTS currency to MRIP FES during the process to update quotas based on MRIP FES so that status quo in terms of who

caches what is maintained as catch levels are updated; if the Council wants to go through an allocation review process using the decision tree that is under development, then they would have time to do that and carefully consider if and how to reallocate; and look at ways to improve our recreational data and ways to reduce dead discards.

5.2.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.2.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

This action addresses Vision Blueprint Strategy 6.1. Support management approaches that consider the mechanics of designing allocation strategies under Objective 6 – Develop management measures that support optimal sector allocations for the snapper grouper fishery.

5.3 Action 3. Modify the fishing year for commercial golden tilefish hook and line and longline components

5.3.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and provided the following comments. Golden tilefish is important for the market when SWG are closed; longline endorsement holders may benefit from a January 15 opening; social benefits to families at the start of the year; Extend fishing closer to Easter; Retain the January 1 start date for the HL sector to allow them a "head start" for the year before the LL sector begins fishing; and more participation in the HL fishery (also buoy gear in recent years) is rationale for consideration of a HL endorsement. The Snapper Grouper AP made the following motions:

MOTION: RECOMMEND THAT THE COMMERCIAL LONGLINE SECTOR OPEN ON JANUARY 15.
APPROVED BY AP (unanimous)

MOTION: CONSIDER A GOLDEN TILEFISH HOOK-AND-LINE ENDORSEMENT AND BRING BACK TO THE AP AT A LATER DATE
APPROVED BY AP (2 OPPOSED, 1 ABSTENTION)

MOTION: CONVENE A MEETING OF THE LONGLINE ENDORSEMENT HOLDERS TO DISCUSS WAYS TO MANAGE THEIR FISHERY
APPROVED BY AP (UNANIMOUS)

Alternatives*

1. (No Action). Do not modify the fishing year for the commercial sector. Current fishing year for both sectors is January 1- December 31.

2. Modify the fishing year for the commercial hook and line component.

2a. Modify the fishing year for the commercial hook and line component to start January 15.

2b. Modify the fishing year for the commercial hook and line component to start January 22.

2c. Modify the fishing year for the commercial hook and line component to start February 1.

3. Modify the fishing year for the commercial longline component.

3a. Modify the fishing year for the commercial longline component to start January 15.

3b. Modify the fishing year for the commercial longline component to start January 22.

3c. Modify the fishing year for the commercial longline component to start February 1.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

5.3.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.3.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action. **To be updated following Fall SSC Meeting.**

5.3.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

Summary of scoping comments pertaining to golden tilefish fishing year:
A number of commentors supported changing the commercial golden tilefish longline season to spread out the catch and not flood the market. One commentor noted that opening the commercial fishery in January, during the roughest time, causes a rush to catch fish as fast as possible forcing boats to fish in potentially hazardous weather conditions. Multiple commentors supported the golden tilefish longline sector getting together to discuss a better way to manage this derby fishery, to increase economic value of harvest and professionalize the fishery, and ways to improve safety in the fishery. One commentor noted changing the start of the commercial sector seasons for golden tilefish would work for some fishermen but not others.

5.3.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.3.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

This action addresses Vision Blueprint Strategy 4.1: Consider management approaches that consider catch limits, seasons, and the biology of the fishery in order to minimize bycatch of snapper grouper species.

5.4 Action 4. Modify recreational accountability measures for golden tilefish.

5.4.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and provided the following comments: after LL fishing is over, there is bycatch of golden tilefish and a bycatch allowance would reduce unnecessary mortality and allow for the fish to enter the market; some vessels with LL endorsements continue to fish for yellow-edge grouper and also target sharks and wreckfish after the golden tilefish LL quota is caught; consider a hook and line endorsement to allow vessels that use longline to be allowed to retain golden tilefish after the LL quota is harvested; and consider possible regional inequality in access (NC vs. FL).

5.4.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.4.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action. **To be updated following Fall SSC Meeting.**

Alternatives*

Alternative (No Action). If, recreational landings exceed the recreational ACL; golden tilefish is identified as overfished; AND the combined commercial and recreational ACL is exceeded in the same calendar year, recreational landings will be monitored for a persistence in increased landings and *if deemed necessary*, reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 2. If recreational landings exceed the recreational ACL, recreational landings will be monitored for a persistence in increased landings and *if deemed necessary*, reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 3. NMFS will annually announce the recreational fishing season start and end. The fishing season will start on (date) and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met

5.4.4 Public Comments and Recommendations

5.4.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.4.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

This action does not directly address management objectives in the Vision Blueprint.

5.5 Action 5. Modify blueline tilefish recreational bag limit

5.5.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and provided the following comments: North of Cape Hatteras, blueline tilefish are abundant in shallow water; eliminating possession by captain and crew would be appropriate if needed; however, the Council could consider waiting until after the stock assessment is completed to consider changes to management measures; blueline tilefish is an important species for the for-hire sector in northeastern NC; when dolphin or tuna are not available, blueline tilefish fill that gap; consider a 3 per person limit with a maximum of 18; and consideration of current economic conditions to make changes to the possession limit for captain and crew.

Alternatives*

1 (No Action). The current recreational blueline tilefish bag limit is 3 per person per day. Captains and crew of for-hire vessels with valid Federal South Atlantic Charter/Headboat Snapper Grouper Permits are allowed to retain bag limit quantities of all snapper grouper species during the open recreational season.

2. Reduce recreational blueline tilefish bag limit to 2 fish per person per day.

3. Reduce recreational blueline tilefish bag limit to 1 fish per person per day.

4. Do not allow retention of blueline tilefish by captain and crew.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in

5.5.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.5.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action. To be updated following Fall SSC Meeting.

5.5.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

Summary of scoping comments on bag limit for blueline tilefish:
One commentor recommended the following: manage blueline tilefish to avoid closures so regulatory discards are kept to a minimum; reduce either the recreational bag limit or season to constrain the harvest of blueline tilefish and constrain that catch to their ACL and so they don't get a chance to fish the scientific uncertainty placed by the SSC; look at all available recreational landings and the for-hire e-logbook reports since 2016 to help guide the reduction in the bag

limit and or season since blueline. One commentor supported putting in limitations to prevent recreational blueline tilefish ACL overages. One commentor noted that Florida already changed their recreational blueline tilefish regulations in state waters to be consistent with federal waters which should address overages that might have been attributed to what was coming out of Florida.

5.5.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.5.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

Addresses Vision Blueprint Strategy 4.1: Consider management approaches that consider catch limits, seasons, and the biology of the fishery in order to minimize bycatch of snapper grouper species.

5.6 Action 6. Modify blueline tilefish recreational season

5.6.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and noted the Council consider making the recreational blueline tilefish season coincide with the snowy grouper recreational season (Alternative 4: May 1-June 30). However, the AP passed the following motion supporting Alternative 1 No Action.

MOTION: RECOMMEND THE COUNCIL SELECT ALTERNATIVE 1 AS PREFERRED APPROVED BY AP (UNANIMOUS)

Alternatives*

1 (No Action). Do not modify the blueline tilefish recreational season. The current recreational season is May 1-August 31.

2. Modify blueline tilefish recreational season to May 1 through July 30.

3. Modify blueline tilefish recreational season to June 1 through August 31.

4. Modify blueline tilefish recreational season to May 1 through June 30.

5. Modify blueline tilefish recreational season to July 1 through August 31.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in

5.6.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.6.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action.
To be updated following Fall SSC Meeting.

5.6.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

Summary of scoping comments pertaining to recreational season:
One commentor recommended the following: manage blueline tilefish to avoid closures so regulatory discards are kept to a minimum; reduce either the recreational bag limit or season to constrain the harvest of blueline tilefish and constrain that catch to their ACL and so they don't get a chance to fish the scientific uncertainty placed by the SSC; look at all available recreational landings and the for-hire e-logbook reports since 2016 to help guide the reduction in the bag limit and or season since blueline.

5.6.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.6.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

Addresses Strategy 4.1: Consider management approaches that consider catch limits, seasons, and the biology of the fishery in order to minimize bycatch of snapper grouper species.

5.7 Action 7. Modify recreational accountability measures for blueline tilefish.

5.7.1 Snapper Grouper AP Comments and Recommendations

The Snapper Grouper AP met in April 2022 and passed the following motion pertaining to recreational accountability measures for blueline tilefish: **MOTION: RECOMMEND THE COUNCIL SELECT ALTERNATIVE 2 AS PREFERRED**
APPROVE BY AP (UNANIMOUS)

5.7.2 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP discussed Amendment 52 during their February 10, 2022 meeting. They had no comments or recommendations on this particular action.

5.7.3 SSC Comments and Recommendations

The SSC during their April 2022 meeting received an update on the amendment currently being considered by the Council. They had no comments or recommendations on this particular action.
To be updated following Fall SSC Meeting.

Alternatives*

Alternative (No Action). If, Recreational landings exceed the recreational ACL; blueline tilefish is identified as overfished; AND the combined commercial and recreational ACL is exceeded in the same calendar year, recreational landings will be monitored for a persistence in increased landings and *if deemed necessary*, reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage.

Alternative 2. If Recreational landings exceed the recreational ACL, recreational landings will be monitored for a persistence in increased landings and *if deemed necessary*, reduce the length of the recreational fishing season and the recreational ACL by the amount of the recreational ACL overage

Alternative 3. NMFS will annually announce the recreational fishing season start and end. The fishing season will start on (date) and end on the date National Marine Fisheries Service projects the recreational annual catch limit will be met

5.7.4 Public Comments and Recommendations

A scoping document and accompanying presentation were posted on the Council's website on January 18, 2022. The scoping comment period ran from January 18, 2022, through 5 PM on February 4, 2022. Comments were also received online (view comments HERE). Scoping hearings for Amendment 52 were held via webinar on February 1-3, 2022.

Summary of scoping comments pertaining to recreational season:
One commentor noted that the Council or SERO demonstrate where these species occur together; just because fishermen go somewhere to catch a snowy grouper and go somewhere to catch blueline tilefish it does not necessarily mean you catch them together; the blueline tilefish ACL was exceeded in 5 of last 6 years harvesting the buffer between ABC and OFL; SERO/RA

has the authority and needs to constrain catch now until the Council action can be implemented in 2023 considering blueline tilefish OFL was exceeded in 3 years since 2016 and actions have hurt commercial fishermen north of Cape Hatteras where there is no bycatch.• One commentor supported putting in limitations to prevent recreational blueline tilefish ACL overages; better tracking of the recreational fishery. He stated the market needs a reliable source of blueline tilefish, which is more affordable than grouper and one of the few fish you can depend on during summertime. One commentor recommended there be a very limited recreational blueline tilefish season and accountability measures that take into account all deepwater species being managed and discards. A number of commentors noted the recreational blueline tilefish overages in recent years were unacceptable and the fishery needs to be held to the ACL to maintain a healthy stock. One commentor recommended determining what is driving trends in fisheries and changes in the way fish are being caught and geographic shifts with fish showing up in difference places than they had in the past.

5.7.5 DRAFT South Atlantic Council's Rationale

To Be Completed.

5.7.6 How is this Action Addressing the Vision Blueprint for the Snapper Grouper Fishery?

This action does not directly address management objectives in the Vision Blueprint.

Chapter 6. Cumulative Effects--UPDATE

While this environmental assessment (EA) is being prepared using the 2020 Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, the cumulative effects discussed in this section meet the two-part standard for "reasonable foreseeability" and "reasonably close causal connection" required by the new definition of effects or impacts. Below is the five-step cumulative effects analysis that identifies criteria that must be considered in an EA.

6.1 Affected Area

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Fishery Management Council's (Council) area of jurisdiction. In light of the available information, the extent of the boundaries would depend upon the degree of fish immigration/emigration and larval transport, whichever has the greatest geographical range. The ranges of affected species are described in Volume II of the Fishery Ecosystem Plan.[9] For the proposed actions found in Amendment 50 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP), the cumulative effects analysis includes an analysis of data from 2017 through the present.

6.2 Past, Present, and Reasonably Foreseeable Actions Impacting the Affected Area

Fishery managers implemented the first significant regulations pertaining to snapper grouper species in 1983 through the Snapper Grouper FMP (SAFMC 1983). Listed below are other past, present, and reasonably foreseeable actions occurring in the South Atlantic Region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical and socio-economic environment. The complete history of management of the snapper grouper fishery can be found in Appendix I (History of Management).

Past Actions

Amendment 36 to the Snapper Grouper FMP, effective on July 31, 2017, was implemented to establish new spawning special management zones (SMZ) to protect spawning areas for snapper grouper species.

Amendment 37 to the Snapper Grouper FMP, effective on August 24, 2017, modified the hogfish fishery management unit in response to genetically different stocks along the South Atlantic, specified fishing levels for the two stocks, established a rebuilding plan for the Florida Keys/East Florida stock, and established or revised management measures for both hogfish stocks such as size limits, recreational bag limits, and commercial trip limits.

[9] http://safmc.net/ecosystem-management/fishery-ecosystem-plan/

Amendment 43 to the Snapper Grouper FMP, effective on July 26, 2017, specified recreational and commercial annual catch limits (ACL) for red snapper beginning in 2018.

Abbreviated Framework 1 to the Snapper Grouper FMP, effective on August 27, 2018, was implemented to address overfishing of red grouper, and reduced the commercial and recreational ACLs for red grouper in the South Atlantic exclusive economic zone (EEZ).

Abbreviated Framework 2 to the Snapper Grouper FMP, effective on May 9, 2019, revised fishing levels for black sea bass and vermilion snapper in response to the latest stock assessments for those species in the South Atlantic.

Amendment 42 to the Snapper Grouper FMP, effective on January 8, 2020, added three newly approved sea turtle release devices and updated the regulations to simplify and clarify the specifications for other release gear requirements. The new devices and updates provide more options to fulfill the requirements for sea turtle release gear on board vessels with commercial and charter/for-hire snapper grouper permits in the South Atlantic. The amendment also streamlines the procedure to implement newly approved devices and handling procedures in the future.

Regulatory Amendment 27 (Vision Blueprint Regulatory Amendment 27) to the Snapper Grouper FMP, effective on February 26, 2020, addresses specific action items in the 2016-2020 Vision Blueprint for the commercial sector of the snapper grouper fishery. The framework amendment revised commercial regulations for blueline tilefish, snowy grouper, greater amberjack, red porgy, vermilion snapper, almaco jack, Other Jacks Complex (lesser amberjack, almaco jack, and banded rudderfish), queen snapper, silk snapper, blackfin snapper, and gray triggerfish. Actions include modifying fishing seasons, trip limits, and minimum size limits.

Regulatory Amendment 30 to the Snapper Grouper FMP, effective on March 9, 2020, revised the rebuilding plan for red grouper, extended the annual spawning closure for that species off North and South Carolina, and established a commercial trip limit.

Regulatory Amendment 26 (Vision Blueprint Regulatory Amendment 26) to the Snapper Grouper FMP, effective on March 30, 2020, addresses specific action items in the 2016-2020 Vision Blueprint for the recreational sector of the snapper grouper fishery. The framework amendment modified the 20-fish aggregate bag limits, and minimum size limits for certain species.

Regulatory Amendment 29 to the Snapper Grouper FMP, effective July 15, 2020, modified gear requirements for South Atlantic snapper grouper species. Actions included requirements for descending and venting devices, and modifications to requirements for circle hooks and powerheads.

Abbreviated Framework 3 to the Snapper Grouper FMP, effective August 17, 2020, revised fishing levels for blueline tilefish in the South Atlantic region.

Regulatory Amendment 33 to the Snapper Grouper FMP, effective August 17, 2020, removed the requirement that if projections indicate the South Atlantic red snapper season (commercial or

recreational) would be three days or fewer, the commercial and/or recreational seasons would not open for that fishing year. If this requirement is removed, red snapper harvest could be open for either recreational or commercial harvest for fewer than four days.

Regulatory Amendment 34 to the Snapper Grouper FMP, effective May 3, 2021, created 34 special management zones around artificial reefs off North Carolina and South Carolina.

Present Actions

Amendment 44 to the Snapper Grouper FMP will address the results of the latest stock assessment for the yellowtail snapper stock in the southeast.

Comprehensive Acceptable Biological Catch (ABC) Control Rule Amendment (Amendment 45 to the Snapper Grouper FMP) would modify the ABC control rule, specify an approach for determining the acceptable risk of overfishing and the probability of rebuilding success for overfished stocks, allow phase-in of ABC changes, and allow carry-over of unharvested catch. This amendment will continue being developed in 2021.

Amendment 49 to the Snapper Grouper FMP would address the results of the latest stock assessment for the greater amberjack stock in the South Atlantic region.

Amendment 51 to the Snapper Grouper FMP would address the results of the latest stock assessment for the snowy grouper stock in the South Atlantic region. Snowy grouper was determined to be overfished and undergoing overfishing.

Amendment 53 to the Snapper Grouper FMP would address the results of the latest stock assessment for the gag stock in the South Atlantic region. Gag was determined to be overfished and undergoing overfishing.

Reasonably Foreseeable Future Actions

Expected Impacts from Past, Present, and Future Actions

6.3 Consideration of Climate Change and Other Non-Fishery Related Issues

Climate Change

Global climate changes could have significant effects on South Atlantic fisheries, though the extent of these effects on the snapper grouper fishery is not known at this time. The Environmental Protection Agency's climate change webpage (https://www.epa.gov/climate-indicators/marine-species-distribution), and NOAA's Office of Science and Technology climate webpage (https://www.fisheries.noaa.gov/topic/climate), provides background information on climate change, including indicators which measure or anticipate effects on oceans, weather and climate, ecosystems, health and society, and greenhouse gases. The United Nations Intergovernmental Panel on Climate Change's Fifth Assessment Report also provides a

compilation of scientific information on climate change (November 2, 2014). Those findings are summarized below.

Ocean acidification, or a decrease in surface ocean pH due to absorption of anthropogenic carbon dioxide emissions, affects the chemistry and temperature of the water. Increased thermal stratification alters ocean circulation patterns, and causes a loss of sea ice, sea level rise, increased wave height and frequency, reduced upwelling, and changes in precipitation and wind patterns. Changes in coastal and marine ecosystems can influence organism metabolism and alter ecological processes such as productivity, species interactions, migration, range and distribution, larval and juvenile survival, prey availability, and susceptibility to predators. The "center of biomass," a geographical representation of each species' weight distribution, is being used to identify the shifting of fish populations. Warming sea temperature trends in the southeast have been documented, and animals must migrate to cooler waters, if possible, if water temperatures exceed survivable ranges (Needham et al. 2012). Harvesting and habitat changes also cause geographic population shifts. Changes in water temperatures may also affect the distribution of native and exotic species, allowing invasive species to establish communities in areas they may not have been able to survive previously. The combination of warmer water and expansion of salt marshes inland with sea-level rise may increase productivity of estuarine-dependent species in the short term. However, in the long term, this increased productivity may be temporary because of loss of fishery habitats due to wetland loss (Kennedy et al. 2002). The numerous changes to the marine ecosystem may cause an increased risk of disease in marine biota. An increase in the occurrence and intensity of toxic algae blooms will negatively influence the productivity of keystone animals, such as corals, and critical coastal ecosystems such as wetlands, estuaries, and coral reefs (Kennedy et al. 2002; IPCC 2014).

Climate change may impact snapper grouper species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur. In the near term, it is unlikely that the management measures contained in Amendment 52 would compound or exacerbate the ongoing effects of climate change on snapper grouper species.

Weather Variables

Hurricane season is from June 1 to November 30, and accounts for 97% of all tropical activity affecting the Atlantic basin. These storms, although unpredictable in their annual occurrence, can devastate areas when they occur. Although these effects may be temporary, those fishing-related businesses whose profitability is marginal may go out of business if a hurricane strikes.

6.4 Overall Impacts Expected from Past, Present, and Future Actions

The proposed management actions are summarized in Chapter 2 of this document. Detailed discussions of the magnitude and significance of the impacts of the alternatives on the human environment appear in Chapter 4 of this document. None of the impacts of the actions in this amendment, in combination with past, present, and future actions have been determined to be significant. Although several other management actions, in addition to this amendment, are expected to affect snapper grouper species, any additive effects, beneficial and adverse, are not expected to result in a significant level of cumulative impacts.

The proposed actions would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places as these are not in the South Atlantic EEZ. These actions are not likely to result in direct, indirect, or cumulative effects to unique areas, such as significant scientific, cultural, or historical resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas as the proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort within the South Atlantic region. The U.S. Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries are within the boundaries of the South Atlantic EEZ. The proposed actions are not likely to cause loss or destruction of these national marine sanctuaries because the actions are not expected to result in appreciable changes to current fishing practices. Additionally, the proposed actions are not likely to change the way in which the snapper grouper fishery is prosecuted; therefore, the actions are not expected to result in adverse impacts on health or human safety beyond the status quo.

6.5 Monitoring and Mitigation

Fishery-independent and fishery-dependent data comprise a significant portion of information used in stock assessments. Fishery-independent data are being collected through the Southeast Fishery Information Survey and the Marine Resources Monitoring Assessment and Prediction Program. The effects of the proposed actions are, and would continue to be, monitored through collection of recreational landings data by all the four states in the South Atlantic Region (Florida, Georgia, South Carolina, and North Carolina). The National Marine Fisheries Service would continue to monitor and collect information on snapper grouper species for stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. The proposed actions relate to the harvest of indigenous species in the Atlantic, and the activities/regulations being altered do not introduce non-indigenous species, and are not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, these alternatives do not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non-indigenous species.

Chapter 7. List of Interdisciplinary Plan Team Members

Name	Agency/Division	Title
Myra Brouwer	SAFMC	Deputy Director for Management/IPT Lead
Scott Crosson	SEFSC	Economist
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Joelle Godwin	SERO/SF	Technical Writer and Editor
Karla Gore	SERO/SF	Fishery Biologist/IPT Lead
Ed Glazier	SERO/SF	Anthropologist
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Mike Travis	SERO/SF	Social Science Branch Chief
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Christina Wiegand	SAFMC	Social Scientist

NOAA=National Oceanic and Atmospheric Administration, NMFS = National Marine Fisheries Service, SERO = Southeast Regional Office, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, SEFSC=Southeast Fisheries Science Center, GC = General Counsel

Chapter 8. Agencies and Persons Consulted

Responsible Agencies
South Atlantic Fishery Management Council (Administrative Lead)
4055 Faber Place Drive, Suite 201
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843-571-4366/ 866-SAFMC-10 (TEL)
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NMFS, Southeast Region
263 13th Avenue South
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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
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
North Carolina Sea Grant
South Carolina Sea Grant
Georgia Sea Grant
Florida Sea Grant
Atlantic States Marine Fisheries Commission
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

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Appendix A. Other Applicable Laws

1.1 Administrative Procedure Act (APA)

All federal rulemaking is governed under the provisions of the APA (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Among other things under the APA, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect, with some exceptions. Amendment 52 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 52) complies with the provisions of the APA through the South Atlantic Fishery Management Council's (Council) extensive use of public meetings, requests for comments and consideration of comments. The proposed rule associated with this plan amendment will have a request for public comments, which complies with the APA, and upon publication of the final rule, unless the rule falls within an APA exception, there will be a 30-day wait period before the regulations are effective.

1.2 Information Quality Act (IQA)

The IQA (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-443)) which took effect October 1, 2002, directed the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidelines to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." OMB directed each federal agency to issue its own guidelines, establish administrative mechanisms allowing affected persons to seek and obtain correction of information that does not comply with OMB guidelines, and report periodically to OMB on the number and nature of complaints. The NOAA Section 515 Information Quality Guidelines require a series of actions for each new information product subject to the IQA. Amendment 52 uses the best available information and made a broad presentation thereof. The information contained in this document was developed using best available scientific information. Therefore, this document is in compliance with the IQA.

1.3 Coastal Zone Management Act (CZMA)

Section 307(c)(1) of the federal CZMA of 1972 requires that all federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. While it is the goal of the Council to have management measures that complement those of the states, federal and state administrative procedures vary and regulatory changes are unlikely to be fully instituted at the same time. The Council believes the actions in this plan amendment are consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina. Pursuant to Section 307 of the CZMA, this determination will be submitted to the responsible state agencies who administer the approved Coastal Zone Management Programs in the States of Florida, South Carolina, Georgia, and North Carolina.

1.4 Executive Order 12612: Federalism

Executive Order (E.O.) 12612 requires agencies to be guided by the fundamental federalism principles when formulating and implementing policies that have federalism implications. The purpose of the Order is to guarantee the division of governmental responsibilities between the federal government and the states, as intended by the framers of the Constitution. No federalism issues have been identified relative to the actions proposed in this document and associated regulations. Therefore, preparation of a Federalism assessment under E.O. 12612 is not necessary.

1.5 Executive Order 12962: Recreational Fisheries

E.O. 12962 requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods. Additionally, the Order establishes a seven-member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The National Recreational Fisheries Coordination Council also is responsible for developing, in cooperation with federal agencies, states and tribes, a Recreational Fishery Resource Conservation Plan to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

The alternatives considered in this document are consistent with the directives of E.O. 12962.

1.6 Executive Order 13089: Coral Reef Protection

E.O. 13089, signed by President William Clinton on June 11, 1998, recognizes the ecological, social, and economic values provided by the Nation's coral reefs and ensures that federal agencies are protecting these ecosystems. More specifically, the Order requires federal agencies to identify actions that may harm U.S. coral reef ecosystems, to utilize their program and authorities to protect and enhance the conditions of such ecosystems, and to ensure that their actions do not degrade the condition of the coral reef ecosystem.

The alternatives considered in this document are consistent with the directives of E.O. 13089.

1.7 Executive Order 13158: Marine Protected Areas (MPAs)

E.O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of MPAs. The E.O. defined MPAs as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources

therein." It directs federal agencies to work closely with state, local and non-governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources."

The alternatives considered in this document are consistent with the directives of E.O. 13158.

1.8 National Marine Sanctuaries Act (NMSA)

Under the NMSA (also known as Title III of the Marine Protection, Research and Sanctuaries Act of 1972), as amended, the U.S. Secretary of Commerce is authorized to designate National Marine Sanctuaries to protect distinctive natural and cultural resources whose protection and beneficial use requires comprehensive planning and management. The National Marine Sanctuary Program is administered by the Sanctuaries and Reserves Division of NOAA. The NMSA provides authority for comprehensive and coordinated conservation and management of these marine areas. The National Marine Sanctuary Program currently comprises 13 sanctuaries around the country, including sites in American Samoa and Hawaii. These sites include significant coral reef and kelp forest habitats, and breeding and feeding grounds of whales, sea lions, sharks, and sea turtles. The three sanctuaries in the South Atlantic exclusive economic zone are the USS Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries.

The alternatives considered in this document are not expected to have any adverse impacts on the resources managed by the National Marine Sanctuaries.

1.9 Paperwork Reduction Act (PRA)

The purpose of the PRA is to minimize the burden on the public. The PRA is intended to ensure that the information collected under the proposed action is needed and is collected in an efficient manner (44 U.S.C. 3501 (1)). The authority to manage information collection and record keeping requirements is vested with the Director of the Office of Management and Budget (OMB). This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications. The PRA requires NMFS to obtain approval from the OMB before requesting most types of fishery information from the public. Actions in this document are not expected to affect PRA.

1.10 Small Business Act (SBA)

Enacted in 1953, the SBA requires that agencies assist and protect small-business interests to the extent possible to preserve free competitive enterprise. The objectives of the SBA are to foster business ownership by individuals who are both socially and economically disadvantaged; and to promote the competitive viability of such firms by providing business development assistance including, but not limited to, management and technical assistance, access to capital and other forms of financial assistance, business training, and counseling, and access to sole source and limited competition federal contract opportunities, to help firms achieve competitive viability. Because most businesses associated with fishing are considered small businesses, NMFS, in implementing regulations, must make an assessment of how those regulations will affect small businesses.

1.11 Public Law 99-659: Vessel Safety

Public Law 99-659 amended the Magnuson-Stevens Fishery Conservation and Management Act to require that a FMP or FMP amendment must consider, and may provide for, temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to a fishery for vessels that would be otherwise prevented from participating in the fishery because of safety concerns related to weather or to other ocean conditions. No vessel would be forced to participate in South Atlantic fisheries under adverse weather or ocean conditions as a result of the imposition of management regulations proposed in this amendment. No concerns have been raised by South Atlantic fishermen or by the U.S. Coast Guard that the proposed management measures directly or indirectly pose a hazard to crew or vessel safety under adverse weather or ocean conditions.

Appendix B. Regulatory Impact Review

Appendix C. Regulatory Flexibility Analysis-UPDATE

Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration. The RFA does not contain any decision criteria; instead, the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of the alternatives contained in the fishery management plan (FMP) or amendment (including framework management measures and other regulatory actions) and to ensure that the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

With certain exceptions, the RFA requires agencies to conduct a regulatory flexibility analysis for each proposed rule. The regulatory flexibility analysis is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. The following regulatory flexibility analysis was conducted to determine if the proposed rule would have a significant economic impact on a substantial number of small entities or not.

Statement of the need for, objective of, and legal basis for the proposed rule.

The need for and objectives of, the proposed action are presented in Section 1.5 and are incorporated herein by reference. The Magnuson-Stevens Act provides the statutory basis for this proposed rule.

Identification of federal rules which may duplicate, overlap or conflict with the proposed rule.

No federal rules have been identified that duplicate, overlap or conflict with the rule.

Description and estimate of the number of small entities to which the proposed action would apply

Appendix D. Essential Fish Habitat and Ecosystem Based Fishery Management

I. EFH and EFH-HAPC Designations and Cooperative Habitat Policy Development and Protection

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires federal fishery management Councils and the National Marine Fisheries Service (NMFS) to designate essential fish habitat (EFH) for species managed under federal fishery management plans (FMP). Federal regulations that implement the EFH program encourage fishery management Councils and NMFS also to designate subsets of EFH to highlight priority areas within EFH for conservation and management. These subsets of EFH are called EFH-Habitat Areas of Particular Concern (EFH-HAPCs or HAPCs) and are designated based on ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of the habitat type. Information supporting EFH and EFH-HAPC designations was updated (pursuant to the EFH Final Rule) in Fishery Ecosystem Plan (FEP) II.

a. South Atlantic Council EFH User Guide

The EFH Users Guide developed during the FEP II development process is available through the FEP II Dashboard and provides a comprehensive list of the designations of EFH and EFH-HAPCs for all species managed by the South Atlantic Fishery Management Council (South Atlantic Council) and the clarifications identified during FEP II development. As noted above, additional detailed information supporting the EFH designations appears in FEP, FEP II, and in individual FMPs, and general information on the EFH provisions of the Magnuson-Stevens Act and its implementing regulations (50 CFR 900 Subparts J and K). These sources should be reviewed for information on the components of EFH assessments, steps to EFH consultations, and other aspects of EFH program operation.

b. South Atlantic Council EFH Policy and EFH Policy Statements

Policy for Protection and Restoration of EFH

South Atlantic Council Habitat and Environmental Protection Policy

In recognizing that species are dependent on the quantity and quality of their essential habitats, it is the policy of the South Atlantic Council to protect, restore, and develop habitats upon which fisheries species depend; to increase the extent of their distribution and abundance; and to improve their productive capacity for the benefit of present and future generations. For purposes of this policy, "habitat" is defined as the physical, chemical, and biological parameters that are necessary for continued productivity of the species that is being managed. The objectives of the South Atlantic Council policy will be accomplished through the recommendation of no net loss or significant environmental degradation of existing habitat. A long-term objective is to support and promote a net-gain of fisheries habitat through the restoration and rehabilitation of the productive capacity of habitats that have been degraded, and the creation and development of productive habitats where increased fishery production is probable. The South Atlantic Council will pursue these goals

at state, Federal, and local levels. The South Atlantic Council shall assume an aggressive role in the protection and enhancement of habitats important to fishery species and shall actively enter Federal decision-making processes where proposed actions may otherwise compromise the productivity of fishery resources of concern to the South Atlantic Council.

South Atlantic Council EFH Policy Statements

Considerations to Reduce or Eliminate the Impacts of Non-Fishing Activities on EFH

In addition to implementing regulations to protect habitat from degradation due to fishing activities, the South Atlantic Council in cooperation with NMFS, actively comments on non-fishing projects or policies that may impact fish habitat. The South Atlantic Council established a Habitat Protection and Ecosystem Based Management Advisory Panel (AP) and adopted a comment and policy development process. Members of the AP serve as the South Atlantic Council's habitat contacts and professionals in the field and have guided the South Atlantic Council's development of the following Policy Statements:

- EFH Policy Statement on South Atlantic Climate Variability and Fisheries (December 2016)
- EFH Policy Statement on South Atlantic Food Webs and Connectivity (December 2016)
- Protection and Restoration of EFH from Marine Aquaculture (June 2014)
- Protection and Enhancement of Marine Submerged Aquatic Vegetation (June 2014)
- Protection and Restoration of EFH from Beach Dredging and Filling, Beach Re-nourishment and Large Scale Coastal Engineering (March 2015)
- Protection and Restoration of EFH from Energy Exploration, Development, Transportation and Hydropower Re-Licensing (December 2015)
- Protection and Restoration of EFH from Alterations to Riverine, Estuarine and Nearshore Flows (June 2014)
- Policies for the Protection of South Atlantic Marine & Estuarine Ecosystems from Non-Native and Invasive Species (June 2014)
- Policy Considerations for Development of Artificial Reefs in the South Atlantic Region and Protection of Essential Fish Habitat (September 2017)

II. Habitat Conservation and Fishery Ecosystem Plans

The South Atlantic Council, views habitat conservation as the foundation in the move to Ecosystem Based Fishery Management (EBFM) in the region. The South Atlantic Council has been proactive in advancing habitat conservation through extensive gear restrictions in all South Atlantic Council FMPs and by directly managing habitat and fisheries affecting those habitats through two FMPs, the FMP for Coral, Coral Reefs and Live/Hard Bottom Habitat of the South Atlantic Region (Coral FMP) and the FMP for the Sargassum Fishery of the South Atlantic Region. The FMP for the Dolphin and Wahoo Fishery in the Atlantic represents a proactive FMP which established fishery measures and identified EFH in advance of overfishing or habitat impacts from the fisheries.

Building on the long-term conservation approach, the South Atlantic Council facilitated the evolution of the Habitat Plan into the first FEP to provide a clear description and understanding of the fundamental physical, biological, and human/institutional context of ecosystems within which fisheries are managed and identify information needed and how that information should be used in the context of FMPs. Developing a South Atlantic FEP required a greater understanding of the South Atlantic ecosystem, including both the complex relationships among humans, marine life, the environment and essential fish habitat and a more comprehensive

understanding of the biological, social, and economic impacts of management necessary to initiate the transition from single species management to EBFM in the region. To support the move towards EBFM, the South Atlantic Council adopted broad goals: (1) maintaining or improving ecosystem structure and function; (2) maintaining or improving economic, (3) social, and cultural benefits from resources; and (4) maintaining or improving biological, economic, and cultural diversity.

III. Ecosystem Approach to Conservation and Management of Deep-water Ecosystems

Through Comprehensive Ecosystem-Based Amendment 1, Comprehensive Ecosystem-Based Amendment 2, and Coral Amendment 8, the South Atlantic Council established and expanded deep-water coral HAPCs (CHAPCs) and co-designated them as EFH-HAPCs to protect the largest continuous distribution (>23,000 square miles) of pristine deep-water coral ecosystems in the world from fishing and non-fishing activities.

IV. FEP II Development

The South Atlantic Council developed FEP II in cooperation with NMFS, as a mechanism to incorporate ecosystem principles, goals, and policies into the fishery management process, including consideration of potential indirect effects of fisheries on food web linkages when developing harvest strategies and management plans. South Atlantic Council policies developed through the process support data collection, model and supporting tool development, and implementation of FEP II. FEP II and the FEP II Implementation Plan provide a system to incorporate of ecosystem considerations into the management process.

FEP II was developed employing writing and review teams established from the South Atlantic Council's Habitat Protection and Ecosystem Based Management AP, and experts from state, federal, NGOs, academia and other regional organizations and associations. Unlike the original Plan, FEP II is a living continually developing online information system presenting core sections and sections with links to documents or other online systems with detailed updated information on species, habitat, fisheries and research. A core part of the FEP II development process involved engaging the South Atlantic Council's Habitat Protection and Ecosystem Based Management AP and regional experts in developing new sections and ecosystem- specific policy statements to address South Atlantic food webs and connectivity and South Atlantic climate variability and fisheries. In addition, standing essential fish habitat policy statements were updated and a new artificial reef habitat policy statement was approved. In combination, these statements advance habitat conservation and the move to EBFM in the region. They also serve as the basis for further policy development, consideration in habitat and fish stock assessments and future management of fisheries and habitat. They also support a more comprehensive view of conservation and management in the South Atlantic and identify long-term information needs, available models, tools, and capabilities that will advance EBFM in the region.

FEP II Dashboard (In transition to new Habitat and Ecosystem Page)

The FEP II Dashboard and associated online tools provided a clear description of the fundamental physical, biological, human, and institutional context of South Atlantic ecosystems within which fisheries are managed. The Council's new website (under development) will include a new Habitat and Ecosystem page where the FEP II Dashboard layout shown below will be refined and integrated.

- Introduction
- South Atlantic Ecosystem
- South Atlantic Habitats
- Managed Species
- Social and Economic
- Essential Fish Habitat
- SAFMC Managed Areas
- Research & Monitoring
- SAFMC Tools

V. NOAA EBFM Activities Supporting FEP II

a. *NOAA EBFM Policy and Road Map*

To support the move to EBFM, NMFS developed an agency-wide EBFM Policy and Road Map (available through Ecosystem page (under revision) of the FEP II Dashboard that outlines a set of principles to guide actions and decisions over the long-term to: implement ecosystem-level planning; advance our understanding of ecosystem processes; prioritize vulnerabilities and risks of ecosystems and their components; explore and address trade-offs within an ecosystem; incorporate ecosystem considerations into management advice; and maintain resilient ecosystems.

b. *FEP II Implementation Plan Structure and Framework*

The Implementation Plan is structured to translate approved policy statements of the South Atlantic Council into actionable items. The plan encompasses chapters beginning with an introduction to the policy statement, a link to the complete policy statement, and a table which translates policies and policy components into potential action items. The actions within the plan are recommendations for activities that could support the South Atlantic Council's FEP II policies and objectives.

c. *FEP II Two Year Roadmap*

The FEP II Two Year Roadmap draws from the Implementation Plan and presents three to five priority actions for each of the nine approved policy statements of the South Atlantic Council which would be initiated or completed over the next two years (2019-2020). The Roadmap provides "Potential Partners" and other potential regional collaborators, a focused list of priority actions they could cooperate with the South Atlantic Council on to advance policies supporting the move to EBFM in the South Atlantic region.

d. ***Monitoring/Revisions to FEP II Implementation Plan***

FEP II and this supporting Implementation Plan are considered active and living documents. The Implementation Plan will be reviewed and updated periodically. During their spring meeting in 2021 and every three years following, the Habitat Protection and Ecosystem Based Management AP will engage regional experts as needed, to determine whether additional actions addressing council policies should be added to the implementation plan. The South Atlantic Council's Habitat Protection and Ecosystem Based Management Committee will review, revise and refine those recommendations for South Atlantic Council consideration and approval for inclusion into the implementation plan.

VI. Regional Habitat and Ecosystem Partners

The South Atlantic Council, with the Habitat Protection and Ecosystem Based Management AP as the foundation, collaborates with regional partners to create a comprehensive habitat and ecosystem network in the region to enhance habitat conservation and EBFM.
Detailed information and links to partners are highlighted online:
https://ocean.floridamarine.org/safmc_dashboard/partners.html.

VII. Regional Ecosystem Modeling in the South Atlantic

a. ***South Atlantic Ecopath with Ecosim Model***

The South Atlantic Council worked cooperatively with the University of British Columbia and the Sea Around Us project to develop a straw-man and preliminary food web models (Ecopath with Ecosim) to characterize the ecological relationships of South Atlantic species, including those managed by the South Atlantic Council. This effort helped the South Atlantic Council and cooperators identify available information and data gaps while providing insight into ecosystem function. More importantly, the model development process provided a vehicle to identify research necessary to better define populations, fisheries, and their interrelationships. While individual efforts were underway in the South Atlantic, only with significant investment of resources through other programs was a comprehensive regional model further developed.

The current South Atlantic EwE model provides a more complete view of the system and supports potential future evaluations that may be possible with the model. With the model complete and tuned to the available data it can be used to address broad strategic issues and explore "what if" scenarios that could then be used to address tactical decision-making questions such as provide ecosystem context for single species management, address species assemblage questions, and address spatial questions using Ecospace.

A modeling team comprised of FWRI staff, South Atlantic Council staff and other technical experts as needed, will coordinate with members of the original Ecosystem Modeling Workgroup to maintain and further refine the South Atlantic Model.

VIII. Tools supporting Habitat Conservation and EBFM in the South Atlantic Region

The South Atlantic Council developed a Habitat Conservation and Ecosystem Management Section which provided access to the FEP II Digital Dashboard and associated tools which is under development with the new website. Florida's FWRI maintains and distributes GIS data,

imagery, and documents relevant to habitat conservation and ecosystem-based fishery management in their jurisdiction. Web Services and spatial representations of EFH and other habitat related layers are accessible through the Council's SAFMC Atlas, a platform for searching and visualizing GIS data relevant to the Council's mission and download of GIS layers and information on regional partners is available through the SAFMC Digital Dashboard. The online systems provide access to the following Services:

i. South Atlantic Fisheries Webservice: Provides access to species distribution and spatial presentation of regional fishery independent data from the Southeast Area Monitoring and Assessment Program (South Atlantic) SEAMAP-SA, the Marine Resources Monitoring, Assessment, and Prediction program (MARMAP), and NOAA Southeast Fishery-Independent Survey (SEFIS).
ii. South Atlantic EFH Webservice: Provides access to spatial representation of EFH and EFH-HAPCs for South Atlantic Council-managed species and Highly Migratory Species.
iii. South Atlantic Managed Areas Service: Provides access to spatial presentations of South Atlantic Council and other managed areas in the region.
iv. South Atlantic Artificial Reefs Web Application: Provides a regional view of artificial reefs locations, contents and imagery associated with programs in the southeastern U.S. overseen by individual states (Florida, Georgia, South Carolina, North Carolina).
v. South Atlantic ACCSP Web Map and Application: The web map displays Atlantic Coastal Cooperative Statistics Program (ACCSP) Statistical Areas representing catch and values of Council-managed species across time with the application displaying charts of landings and values for ACCSP Statistical Areas.

IX. Ecosystem-Based Action, Future Challenges and Needs

One of the greatest challenges to enhance habitat conservation and EBFM in the region is funding high priority research, including comprehensive benthic mapping and ecosystem model and management tool development. In addition, collecting detailed information on fishing fleet dynamics including defining fishing operation areas by species, species complex, and season, as well as catch relative to habitat is critical for assessment of fishery, community, and habitat impacts and for South Atlantic Council use in place-based management measures. Additional resources need to be dedicated to expanding regional coordination of modeling, mapping, characterization of species use of habitats, and full funding of regional fishery independent surveys (e.g., MARMAP, SEAMAP, and SEFIS) which are linking directly to addressing high priority management needs. The FEP II Implementation Plan includes Appendix A to highlight research and data needs excerpted from the SEAMAP 5 Year Plan because they represent short and long-term research and data needs that support EBFM and habitat conservation in the South Atlantic Region.

Development of ecosystem information systems to support South Atlantic Council management should build on existing tools (e.g., Regional Habitat and Ecosystem GIS and Arc Services) and provide resources to regional cooperating partners for expansion to address long-term South Atlantic Council needs. NOAA should support and build on the regional coordination efforts of the South Atlantic Council as it transitions to a broader management approach. Resources need to be provided to collect information necessary to update information supporting FEP II, which support refinement of EFH designations and spatial representations and future EBFM actions. These are the highest priority needs to support habitat conservation and EBFM, the completion

of mapping of near-shore, mid-shelf, shelf edge, and deep-water habitats in the South Atlantic region and refinement in the characterization of species use of habitats.

Appendix E. Actions and Alternatives Removed from Consideration

4.4 Action 4. Establish an incidental trip limit allowance for the golden tilefish longline component once the longline quota is caught.

4.4.1 Biological Effects

An incidental trip allowance for longline endorsement holders to harvest using hook and line gear once the longline quota is met, would result in the hook and line quota to be met sooner than under **Alternative 1 (No Action**). This would result in a shorter fishing season for the hook and line sector. **Alternative 2**, **Alternative 3**, and **Alternative 4** would vary in the amount of the trip allowance. It is to be expected that the hook and line quota would be met sooner under **Alternative 4**, then **Alternative 3** and **Alternative 2**. Regardless of the alternative selected, this action is not anticipated to have negative biological impacts on golden tilefish. The biological effects of the proposed incidental trip limit allowance alternatives would be expected to be neutral compared to **Alternative 1 (No Action)**, because annual catch limits and accountability measures are in place to cap harvest and trigger corrective action if the annual catch limit is exceeded. None of the alternatives would modify the fishery in such a way that it would result in impacts to protected species.

Alternatives*

1 (No Action). Do not establish an incidental trip allowance for the longline component once the longline quota of golden tilefish is caught. Vessels that have a golden tilefish longline endorsement may not fish for golden tilefish using hook-and-line gear under the 500-lb gutted weight, trip limit.

2. Establish a 100 lb gutted weight. incidental trip limit allowance of golden tilefish for the longline endorsement holders using hook and line gear once the longline quota is caught.

3. Establish a 150 lb gutted weight. incidental trip limit allowance of golden tilefish for the longline endorsement holders using hook and line gear once the longline quota is caught.

4. Establish a 250 lb gutted weight incidental trip limit allowance of golden tilefish for the longline endorsement holders using hook and line gear once the longline quota is caught.

*See Chapter 2 for detailed language of alternatives. Preferred indicated in bold.

4.4.2 Economic Effects

From a total harvest perspective, all of the alternatives in **Action 4** would likely result in all of the commercial sector ACL being landed. There would be some economic benefits for vessels with a longline endorsement from allowing some level of harvest of golden tilefish when such harvest would otherwise be prohibited (**Alternatives 2-4**) however this

would come at the expense of harvest for vessels without such endorsement, thereby likely resulting in a transfer of economic benefits between fishery participants. From the perspective of potential benefits to vessels that have a golden tilefish longline endorsement, Alternative 4 would provide the highest potential economic benefits followed by Alternative 3, Alternative 2, and Alternative 1 (No Action). From the perspective of vessels within the commercial fishery without a longline endorsement, the economic ranking would be the opposite.

4.4.3 Social Effects

In general, management measures that increase the number of fish an angler can land are expected to be more beneficial to fishermen and fishing communities by increasing access to the resource, so long as overharvest is not occurring to negatively affect the stock in the long term. Once the ACL is met or exceeded, triggering AMs that restrict, or close harvest could negatively affect the commercial fleet. Golden tilefish is expected to reach its commercial ACL which would trigger the AMs, closing harvest, resulting in negative social effects due to restricted access to the resource.

Allowing incidental harvest via hook and line **Alternative 2**, **Alternative 3**, and **Alternative 4**) would increase access for vessels that have a golden tilefish longline endorsement and is anticipated to result in direct social benefits to longline commercial fishing businesses in the form of increased revenue and indirect social benefits to fishing communities in the form of increased fish available to the market or for personal consumption. Alternatively, allowing incidental harvest via hook and line for the longline component of the fishery may result in conflict with vessels that do not hold a longline endorsement and have historically been provided exclusive access to the hook and line ACL. This would be especially true if the additional landings result in the hook and line ACL being met or exceeded, triggering AMs, resulting in negative social effects associated with loss of access to the resource for fishing communities.

4.4.4 Administrative Effects

Administrative burdens for **Alternative 2**, **Alternative 3,** and **Alternative 4** would be similar and are expected to be minimal. Administrative burden would be associated with rule-making, education and outreach and enforcement.

Appendix F. Data Analyses

South Atlantic Blueline Tilefish Recreational Closure and Bag Limit Analysis

Predicted Recreational Landings and Closure Analysis

In March of 2015 Amendment 32 closed recreational harvest of blueline tilefish from January through April then also from September through December. Therefore the blueline tilefish recreational sector is only open for harvest from May 1 through August 31. Action 7 of Amendment 52 considers modifying the blueline tilefish recreational season by shorting the recreational season in the open months of May through August. A prediction of future landings is needed to evaluate the impact of the Action 7 alternatives. The first step is a review of recent South Atlantic blueline tilefish recreational landings. The recreational landings were provided from the Southeast Fisheries Science Center on April 28, 2022. The recreational landings are a combination of the Southeast Region Headboat Survey (Headboat) and the Marine Recreational Information Program (MRIP). MRIP has had survey changes over the last decade and, as a result, there are different MRIP datasets. This blueline tilefish recreational analysis used the MRIP Coastal Household Telephone Survey (CHTS) landings. Table 1 provides the blueline tilefish recreational landings (Headboat and MRIP CHTS landings) from 2016 through 2021 by two-month wave. Since March of 2015 Amendment 32 implemented the blueline tilefish recreational sector to only be open from May 1 through August 31, and Table 1 has this open season time period shaded in green. The summary recent recreational landings (Table 1) reveals that there is blueline tilefish harvest occurring outside of the open season. Table 2 provides the percentage of recreational landings by year from landings outside of the open season (January through April, September through December) and from inside the open season (May through August). The amount of blueline tilefish recreational landings harvested outside of the open season ranges from 1% to 38% per year (Table 2). From 2016 through 2021 about 9.8% of the blueline tilefish recreational landings occurred outside of the open season. One step to preventing the recreational landings from exceeding the ACL would be to stop the illegal blueline tilefish recreational harvest occurring during the closed season.

Table 1. South Atlantic blueline tilefish recreational landings by two-month wave from 2016 through 2021. The green shaded area is the open season when blueline tilefish harvest is legal. The landings are in pounds whole weight.

Year	Wave						
	Jan/Feb	Mar/Apr	May/Jun	July/Aug	Sep/Oct	Nov/Dec	Total
2016	10,376	2,919	15,336	156,976	391	0	185,998
2017	2,940	50,666	50,030	56,908	1,547	9,364	171,455
2018	268	4,133	34,173	71,544	346	0	110,463
2019	10,450	1,855	38,299	58,662	169	681	110,116
2020	0	1,020	46,893	340,258	0	14,631	402,802
2021	116	256	57,164	109,403	227	0	167,165

Table 2. Comparison of the South Atlantic blueline tilefish recreational landings that occur outside the open season against percentage of recreational landings from inside the open season by year. The open season is May 1 through August 31. The "2016-2021" results is from summing the recreational landings from 2016 to 2021 and calculating the percentages.

Year	% Landings Outside Open Season	% Landings from Open Season
2016	7.4%	92.6%
2017	37.6%	62.4%
2018	4.3%	95.7%
2019	11.9%	88.1%
2020	3.9%	96.1%
2021	0.4%	99.6%
2016-2021	9.8%	90.2%

Action 7 of Amendment 52 proposes changing the months the blueline tilefish recreational season is open. The recreational landings are a combination of the Headboat and the MRIP CHTS landings. The Headboat landings can be separated by month, however, the MRIP landings are collected and summarized in two-month waves. The MRIP CHTS landings were split into months assuming uniform distribution of landings for each month inside the two-month waves. The monthly landings were used to generate three potential future recreational landings scenarios: 1) three year average of the most recent years of complete data (2019, 2020, and 2021), 2) five year average of the most recent years of complete data (2017 through 2021), and 3) the maximum landings in the last five years of complete data. The year with the maximum recreational landings in the last five years is 2020. The monthly landings are shown in Table 3 and plotted in Figure 1.

Table 3. South Atlantic blueline tilefish recreational landings by month from 2017 through 2021 for the open season. The "3-Year Average" are average monthly landings from 2019, 2020, and 2021. The "5-Year Average" are average monthly landings from 2017,2018,2019,2020, and 2021. The "Max Landings" are the landings from 2020.

Year	May	June	July	August	Total
2017	23,923	26,108	28,576	28,332	106,939
2018	16,531	17,642	36,536	35,009	105,717
2019	19,347	18,953	29,151	29,511	96,962
2020	23,811	23,082	169,839	170,421	387,152
2021	28,877	28,286	54,792	54,611	166,566
Scenario 1: 3-Year Average	24,012	23,440	84,594	84,848	216,893
Scenario 2: 5-Year Average	22,498	22,814	63,779	63,577	172,667
Scenario 3: Max Landings	23,811	23,082	169,839	170,421	387,152

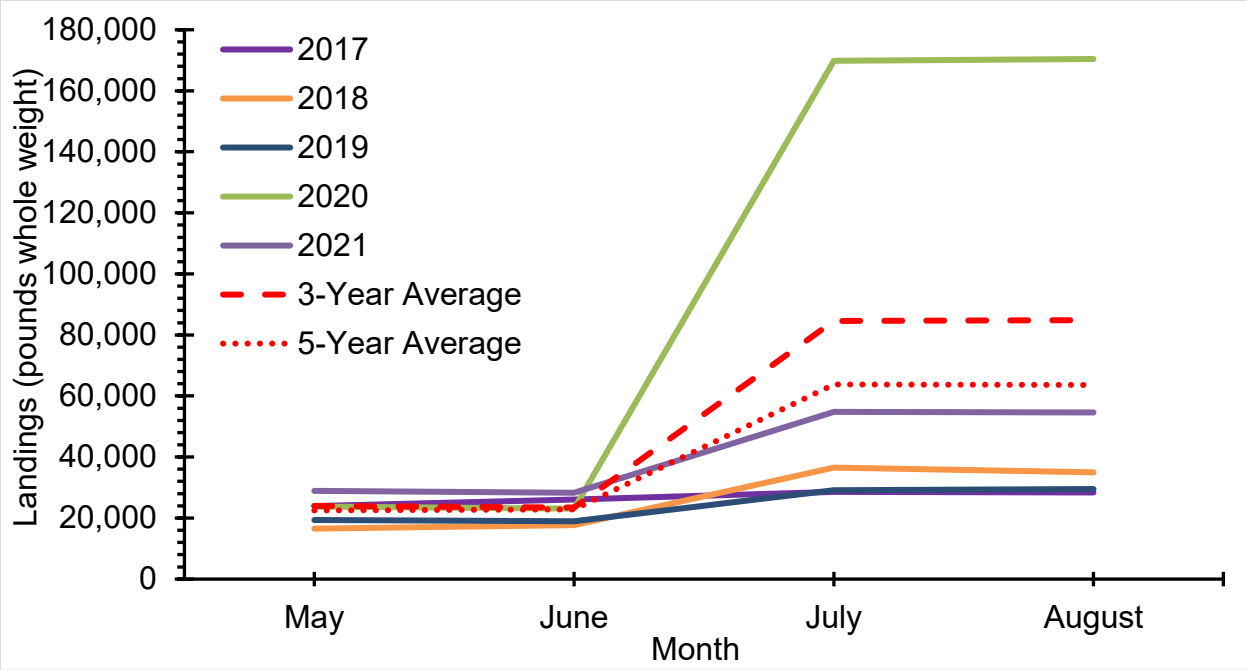

Figure 1. South Atlantic blueline tilefish recreational landings by month from 2017 through 2021, three-year average, and five-year average for the open season.

Season lengths were projected by cumulatively summing the open season recreational landings for the three landings scenarios, and compare the results to the Action 7 open season alternatives. The landings were cumulatively summed by day and compared to the recreational ACL. The recreational ACL is 116,820 pounds whole weight (lbs ww). Closure dates were determined when the recreational landings reached the ACL. Table 4 provides the results of the closure analysis.

Table 4. The projected closure dates for the South Atlantic blueline tilefish recreational sector for the Amendment 52 Action 7 open season alternatives. The closure dates were generated from the three different landings scenarios of 1) three-year average of the most recent years of complete data, 2) five-year average of the most recent years of complete data, and 3) the maximum landings in the last five years of complete data. The closure dates were determined with cumulatively summing the recreational landings and comparing them to the ACL (116,820 lbs ww).

Open Season Alternatives	Closure Date		
	Scenario 1: 3-Year Average	Scenario 2: 5-Year Average	Scenario 3: Max Landings
1. May 1-August 31	26-Jul	4-Aug	13-Jul
2. May 1-July 30	26-Jul	None	13-Jul
3. June 1-August 31	4-Aug	15-Aug	18-Jul

4. May 1-June 30	None	None	None
5. July 1-August 31	12-Aug	26-Aug	22-Jul

Bag Limit Analysis

Action 6 of Amendment 52 considers reducing the blueline tilefish bag limit with the goal of reducing recreational harvest. As stated earlier, South Atlantic blueline tilefish recreational landings data is collected from two different recreational surveys: Headboat and MRIP. Headboat data was provided from the Southeast Fisheries Science Center in May of 2022, and catch per person came from using the Headboat ANGLERS and CAUGHT variables. MRIP data came from the trip and catch files from downloaded from the NOAA fisheries recreational landings website (fisheries.noaa.go) in May of 2022. The MRIP trip and catch files were merged and a trip was defined as data coming from the same party identification code (defined as the PRT_CODE variable in the data). Blueline tilefish harvest for each party was calculated by summing all blueline tilefish harvest (harvest data came from the LANDING variable) from each party (defining each party from the distinct party identification code: PRT_CODE). Both the Headboat and MRIP data were explored and appropriate fish per person per day bins were chosen.

Currently captains and crew of for-hire vessels with valid Federal South Atlantic Charter/Headboat Snapper Grouper Permits are allowed to retain bag limit quantities of all snapper grouper species during the open recreational season. Action 6 Alternative 4 of Amendment 52 removes the option of allowing the retention of blueline tilefish by captain and crew. To analyze the impact of not allowing the retention of blueline tilefish by captain and crew the number of participating anglers that contributed to the harvest were modified. The Headboat and MRIP datasets have the number of anglers but these surveys do not collect the number of captain and crew on a trip. This was analyzed by assuming Headboat trips had two crew members (one captain and one crew), and MRIP charter trips had one crew member (captain) and modifying the number of anglers in the fish per person calculations. MRIP private trips were not modified. The harvest per person was calculated two ways: including crew members and also without crew members. The percentage of trips by blueline tilefish harvest per person per day and by mode (Headboat, charter, and private) are shown in two figures: including the crew members in Figure 2, and excluding the crew members in Figure 3.

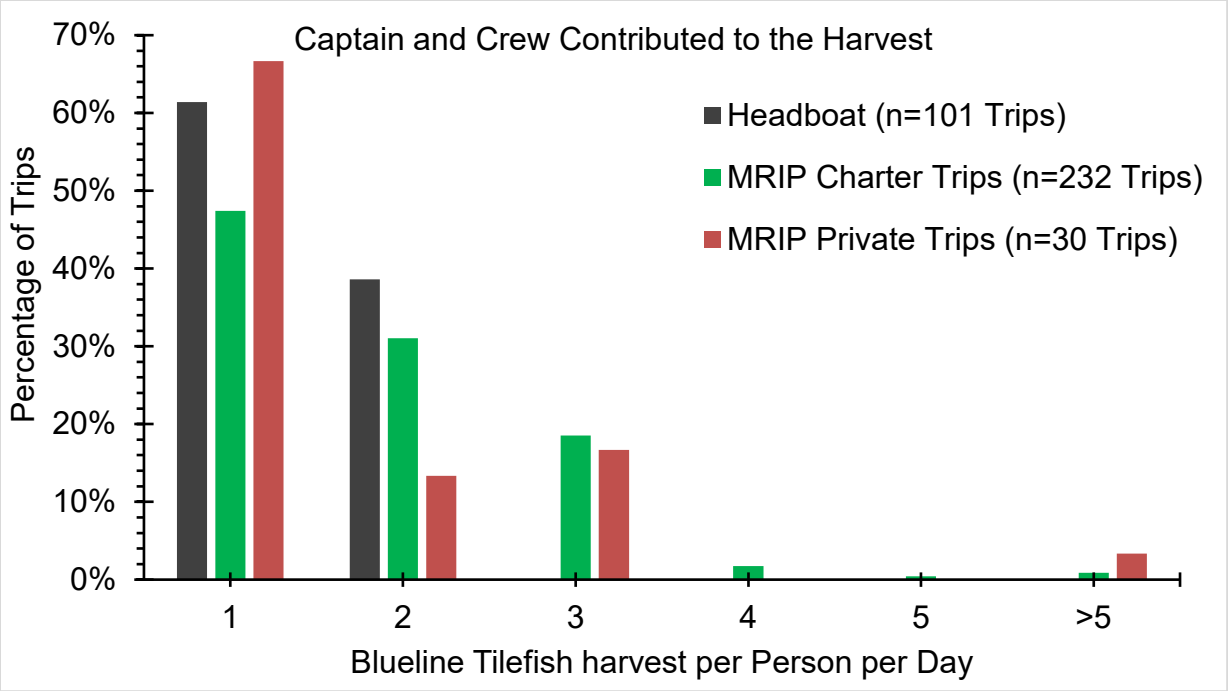

Figure 2. Percentage of trips for a range of South Atlantic blueline tilefish harvested per person by dataset and by mode. The harvest per person includes captain and crew to the contribution of the fish per person per day harvest. Data is from 2017 through 2021, and data from both Headboat and MRIP are provided.

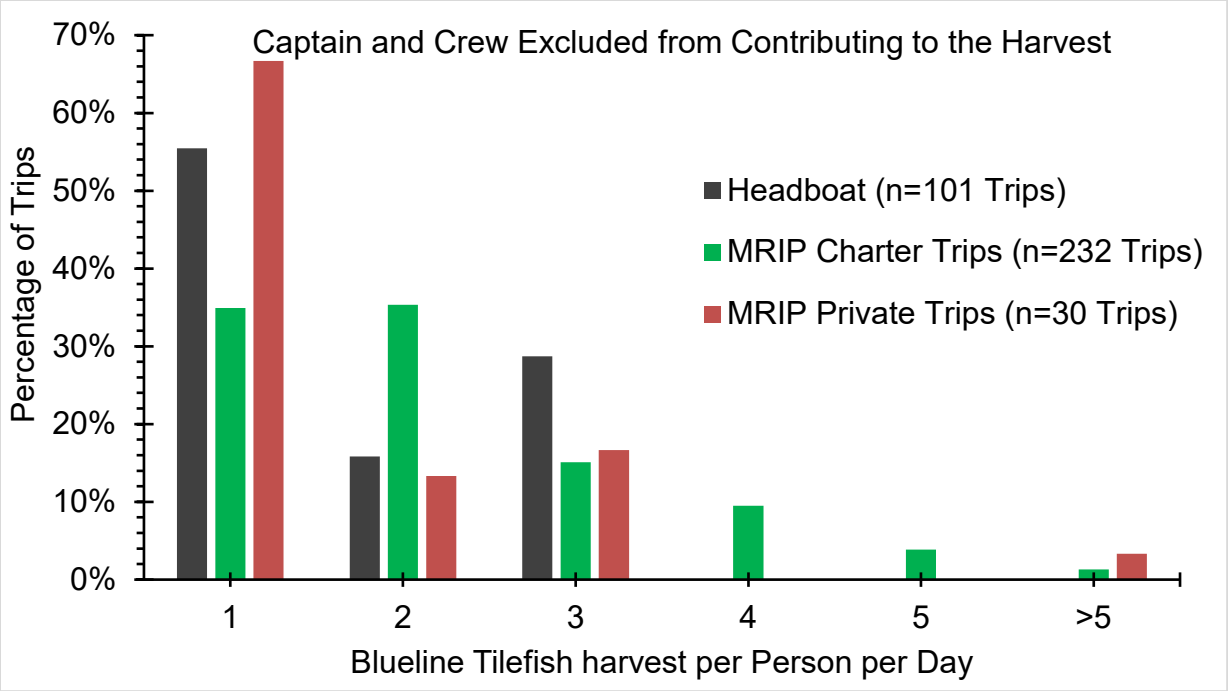

Figure 3. Percentage of trips for a range of South Atlantic blueline tilefish harvested per person by dataset and by mode. The harvest per person excludes captain and crew from contributing to

the fish per person per day harvest. Data is from 2017 through 2021, and data from both Headboat and MRIP are provided.

Percent reductions for the bag limit alternatives of Action 6 were calculated by modifying trips that harvested blueline tilefish. Data from 2017 through 2021 were used and any trips that harvested less than the bag limit being considered were not modified. Trips that met or exceeded the bag limit being considered were changed to meet the Action 6 alternative bag limit under consideration. For example if a bag limit of 2 blueline tilefish per person is being analyzed then a trip that landed 3 blueline tilefish per person would be changed to a harvest of 2 blueline tilefish per person. Trips that harvested above the current bag limit of 3 per person were not modified since these trips exceeded the current bag limit and it was assumed in the future there will still be a similar proportion of trips that exceed the bag limit. The unmodified data was compared to the new bag limit modified data to determine percent reduction in landings. Also, Amendment 52 Action 6 has an alternative that only impacts the charter and headboat modes so the bag limit analysis was done for each mode. Action 6 Alternative 4 assumes no retention of harvest for the captain and crew so Alternatives 1, 2, and 3 included captain and crew in the fish per person harvest calculations. However, Alterative 4 did not include captain and crew in the fish per person harvest calculations. The results of the percent reduction in landings are shown in Table 5.

Table 5. Percent reduction in South Atlantic blueline tilefish recreational landings for Amendment 52 Action 6 Alternatives. Data comes from the recreational data from Headboat and MRIP from 2017 to 2021. "NA" is listed under MRIP Private for Alternative 4 because there were no captain and crew included in the private mode calculations.

Alternative	Headboat	MRIP Charter	MRIP Private
Alternative 1: 3 Fish per Person	0.0%	0.0%	0.0%
Alternative 2: 2 Fish per Person	0.0%	11.5%	10.2%
Alternative 3: 1 Fish per Person	27.9%	38.0%	28.6%
Alternative 4: No Retention for Captain and Crew	4.3%	3.6%	NA

Since the recreational landings are a combination of Headboat, MRIP Charter, and MRIP Private landings a percent reduction was calculated for each Amendment 52 Action 6 alternative by weighting the percent reductions in Table 5 by the recreational landings for each mode. Table 6 provided the percentage of recreational landings by mode from 2017 to 2021 during the open season (May 1 through August 31). In recent years the majority (about 72%) of the South Atlantic recreational blueline tilefish landings came from MRIP charter mode (Table 6). Therefore by weighting the percent reduction by the landing by mode the percent reductions generated from the MRIP charter mode data will have a greater impact then the Headboat and MRIP private percent reductions. Table 7 provides the percent reductions from Table 5 that were weighted by each mode's contribution to the landings.

Table 6. Percent of South Atlantic blueline tilefish recreational landings by mode during the open season from 2017 to 2021. The open season is May 1 through August 31. Percentages were based on the recreational landings in pounds whole weight.

Mode	Percentage of Landings
MRIP Charter	71.6%
MRIP Private	1.9%
Headboat	26.6%

Table 7. Adjusted percent reductions of South Atlantic blueline tilefish recreational landings. The percent reductions were adjusted by weighting the percent reductions by mode (Table 5) by the recreational landings for each mode during the open season from 2017 to 2021. Percentages were based on the recreational landings by mode in pounds whole weight.

Alternative	Adjusted Reductions
Alternative 1: 3 Fish per Person	0.0%
Alternative 2: 2 Fish per Person	8.5%
Alternative 3: 1 Fish per Person	35.1%
Alternative 4: No Retention for Captain and Crew	3.7%

Season lengths were projected by cumulatively summing the open season recreational landings that were reduced by the adjusted percent reductions (Table 7) for the three landings scenarios, and compare the results to the Action 7 open season alternatives. The landings were cumulatively summed by day and compared to the recreational ACL. The recreational ACL is 116,820 pounds whole weight (lbs ww). Closure dates were determined when the recreational landings reached the ACL. Table 8 provides the results of the closure analysis.

Table 8. The projected closure dates for the South Atlantic blueline tilefish recreational sector for the Amendment 52 Action 7 open season alternatives with the impact of the Action 6 bag limit Alternatives. The closure dates were generated from the three different landings scenarios of 1) three-year average of the most recent years of complete data, 2) five-year average of the most recent years of complete data, and 3) the maximum landings in the last five years of complete data. The closure dates were determined with cumulatively summing the recreational landings and comparing them to the ACL (116,820 lbs ww).

Open Season Alternatives	Closure Date		
	Scenario 1: 3-Year Average	Scenario 2: 5-Year Average	Scenario 3: Max Landings
Alternative 1: 3 Fish per Person per Day (Status Quo)			
1. May 1-August 31	26-Jul	4-Aug	13-Jul

2. May 1-July 30	26-Jul	None	13-Jul
3. June 1-August 31	4-Aug	15-Aug	18-Jul
4. May 1-June 30	None	None	None
5. July 1-August 31	12-Aug	26-Aug	22-Jul
Alternative 2: 2 Fish per Person per Day			
1. May 1-August 31	30-Jul	10-Aug	15-Jul
2. May 1-July 30	30-Jul	None	15-Jul
3. June 1-August 31	8-Aug	20-Aug	20-Jul
4. May 1-June 30	None	None	None
5. July 1-August 31	16-Aug	None	24-Jul
Alternative 3: 1 Fish per Person per Day			
1. May 1-August 31	18-Aug	None	25-Jul
2. May 1-July 30	None	None	25-Jul
3. June 1-August 31	27-Aug	None	29-Jul
4. May 1-June 30	None	None	None
5. July 1-August 31	None	None	2-Aug
Alternative 4: No Retention for Captain and Crew			
1. May 1-August 31	28-Jul	6-Aug	14-Jul
2. May 1-July 30	28-Jul	None	14-Jul
3. June 1-August 31	5-Aug	17-Aug	18-Jul
4. May 1-June 30	None	None	None
5. July 1-August 31	14-Aug	29-Aug	23-Jul

South Atlantic Golden Tilefish Commercial Sector Season Length Analyses for Snapper-Grouper Amendment 52

The South Atlantic Fishery Management Council's Snapper-Grouper Amendment 52 (Amendment 52) is considering changes to management regulations for the golden tilefish stock. Amendment 52 is considering changes to the commercial sector's Annual Catch Limit (ACL).

The South Atlantic golden tilefish commercial sector is separated into two gear specific components with individual ACLs: 1) hook and line and 2) long line. This amendment analysis was conducted to make predictions of the commercial landings for both of these gear components.

Hook and Line Component

Commercial landings data for South Atlantic golden tilefish were obtained from the Southeast Fisheries Science Center (SEFSC) on May 13, 2022. All of the South Atlantic golden tilefish commercial landings are in pounds gutted weight (lbs gw). Future commercial landings were determined from reviewing recent commercial landings data, however, the recent commercial landings data is limited due to numerous closures of the hook and line component. Table 1 provides the past closure dates for the golden tilefish hook and line component from 2015 to 2021. A three-year average of landings by month was assumed to reflect future landings. Due to the numerous closures of the hook and line component different years were used to determine the average monthly landings. Average monthly landings for January through April came from 2020, 2021, and 2022. Average monthly landings for May came from 2019, 2020, and 2021. Average monthly landings for June came from 2018, 2019, and 2020. No predicted landings were done from July through December because this time period was frequently closed due to the commercial ACL being met in the past 10 years. Figure 1 shows the landings used in this analysis, and Table 2 provides the predicted landings for each month.

Table 1. Past closure dates for the South Atlantic golden tilefish hook and line component from 2015 to 2021. The commercial hook and line component was closed because the hook and line ACL was met.

Closure Date
December 8, 2015
None
November 29, 2017
August 14, 2018
July 23, 2019
July 23, 2020
June 1, 2021

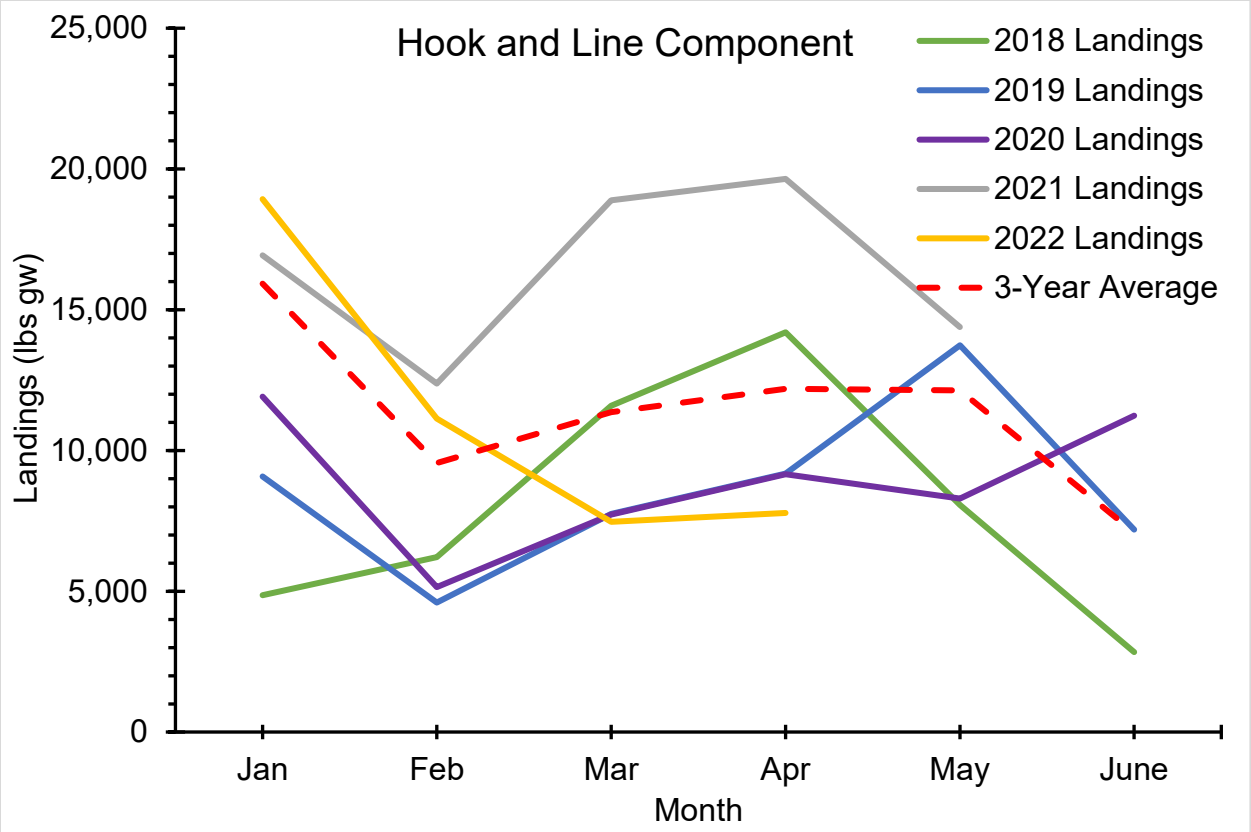

Figure 1. South Atlantic golden tilefish commercial hook and line component landings by month from 2018 to 2022, and a three-year average of available monthly landings. All the landings are in pounds gutted weight.

Table 2. Predicted South Atlantic golden tilefish hook and line component commercial landings by month. The landings are in pounds gutted weight.

Month	Landings
January	15,925
February	9,552
March	11,359
April	12,197
May	12,139
June	7,087
Total	68,259

Amendment 52 is considering a range of commercial Annual Catch Limits (ACLs) for the hook and line component. Season lengths were projected by cumulatively summing the hook and line component 3-year average landings and compare the results to the ACLs show in Table 3. Closure dates were determined if the landings reached the ACL. Table 3 provides the predicted closure dates and none of the commercial hook and line ACLs were being met with the predicted landings. However, the 3-year average landings (which total 68,259 lbs gw) were only available

for the time period of January 1 through June 30. Therefore, the analysis shows that no closures are expected with any of the ACLs for the time period of January 1 through June 30.

Table 3. The projected closure dates for the golden tilefish commercial hook and line component for a range of commercial ACLs in Amendment 52. The closure dates came from comparing the 3-year average landings against the ACLs. However, the 3-year average landings are only available from January 1 through June 30.

ACL	Closure Date
82,935	None
101,052	None
105,161	None
108,304	None
110,722	None
112,656	None

Longline Component

As stated earlier, commercial landings data for South Atlantic golden tilefish were obtained from the SEFSC on May 13, 2022. All of the South Atlantic golden tilefish commercial landings are in pounds gutted weight (lbs gw). Future commercial landings were determined from reviewing recent commercial landings data, however the recent commercial landings data is limited due to numerous closures of the longline component. Table 4 provides the past closure dates for the golden tilefish longline component from 2015 to 2022. A three-year average of longline component landings by month were assumed to reflect future landings. Due to the closures different years were used to determine the average monthly landings. Average monthly landings for January came from 2020, 2021, and 2022. Average monthly landings for February came from 2018, 2019, and 2022. Figure 2 shows the longline component landings used in this analysis, and Table 5 provides the predicted landings for each month. The numerous closures in Table 4 show that the longline component experiences "derby-like" conditions with high landings per day until the ACL is met. Therefore, it was assumed the catch rates are high until the ACL is met. Due to the limited longline component commercial landings data from March through December a daily catch rate was determined from the January and February landings. The daily catch rate generated from the 3-year average of the January and February landings (Table 5) is 3,976 lbs gw a day. This daily catch rate was used in this analysis for the March through December time period, and then projected forward until the ACL is met.

Table 4. Past closure dates for the South Atlantic golden tilefish longline component from 2015 to 2022. The commercial longline component was closed because the longline ACL was met.

Closure Date
February 19, 2015
None
May 9, 2017
March 25, 2018
March 14, 2019

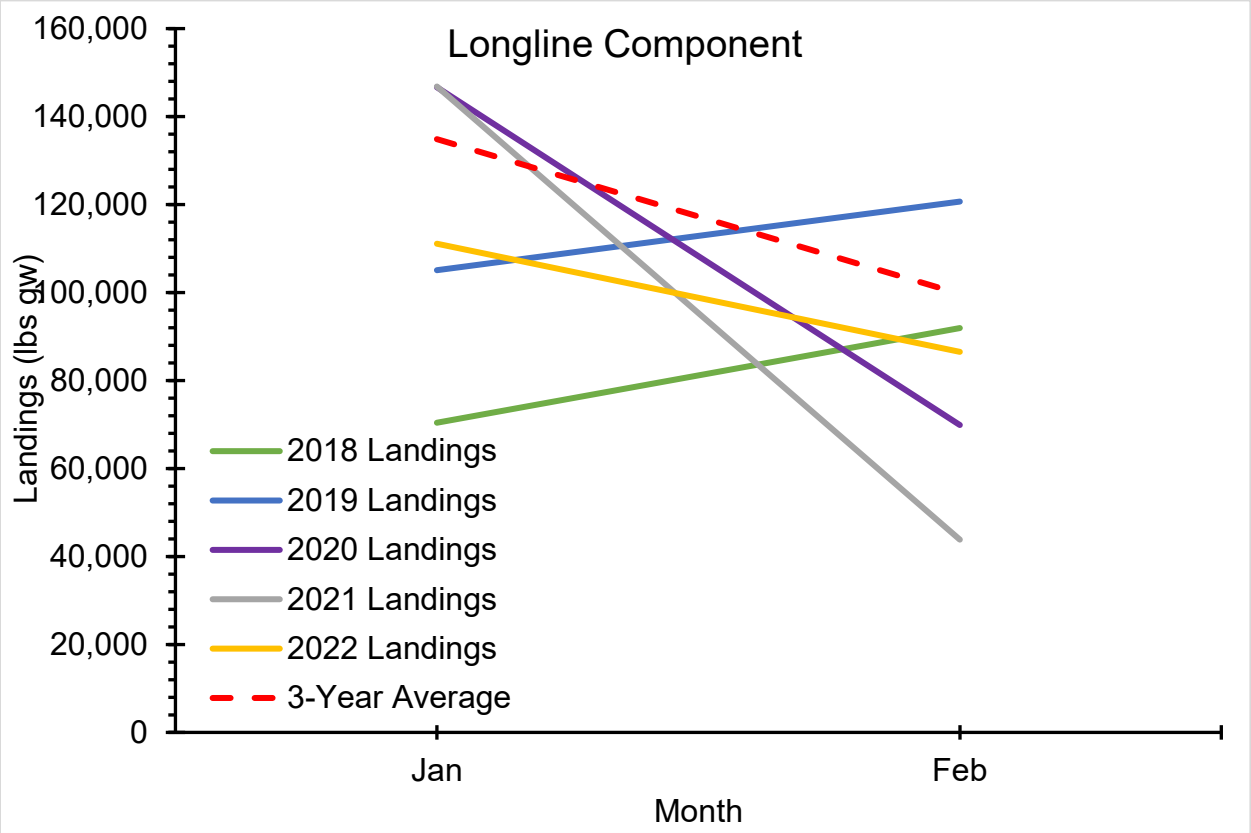

Figure 2. South Atlantic golden tilefish commercial longline component landings by month from 2018 to 2022 and a three-year average of available monthly landings. The landings are in pounds gutted weight.

Table 5. Predicted South Atlantic golden tilefish longline component commercial landings by month. The landings are in pounds gutted weight.

Month	Landings
January	134,866
February	99,701
Total	234,567

Amendment 52 is considering a range of commercial ACLs for the longline component. Season lengths were projected by cumulatively summing the commercial 3-year average landings for January and February and then applying the daily catch rate (3,976 lbs gw per day) from March through December. Closure dates were determined when the landings reached the ACL. Table 6

provides the predicted closure dates. The analysis shows that all of the closure dates are in the month of March.

Table 6. The projected closure dates for the golden tilefish commercial longline component for a range of commercial ACLs in Amendment 52.

ACL	Closure Date
248,805	March-4
303,155	March-18
315,484	March-21
324,912	March-23
332,165	March-25
337,967	March-27

Appendix G. Bycatch Practicability Analysis

Background

Amendment 52 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) would modify management of South Atlantic golden tilefish and blueline tilefish. Actions include revising annual catch limits (ACL), sector allocations, recreational accountability measures (AM), and management measures for the commercial and recreational sectors. Development of Amendment 52 is a response to the most recent stock assessment for South Atlantic golden tilefish (SEDAR 62 2020) as well as a need for continuing management for blueline tilefish. National Marine Fisheries Service (NMFS) outlines at 50 CFR §600.350(d) (3) (i) ten factors that should be considered in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable.

1. Population effects for the bycatch species.
2. Ecological effects due to changes in the bycatch of that species (effects on other species in the ecosystem).
3. Changes in the bycatch of other species of fish and the resulting population and ecosystem effects.
4. Effects on marine mammals and birds.
5. Changes in fishing, processing, disposal, and marketing costs.
6. Changes in fishing practices and behavior of fishermen.
7. Changes in research, administration, and enforcement costs and management effectiveness.
8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources.
9. Changes in the distribution of benefits and costs.
10. Social effects.

Bycatch Reporting Requirements and Methodology

For the commercial sector, the vessel reporting requirement is achieved through logbooks. Fishermen with Commercial South Atlantic Unlimited Snapper Grouper or 225-lb Trip Limit Snapper Grouper Permits, who are selected by the Science and Research Director, are required to maintain and submit fishing records through the National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center (SEFSC) Commercial Logbook. Discard data are collected using the Supplemental Discard Logbook that is sent to a 20% stratified random sample of the active commercial permit holders in the fishery. In addition to the number of self-reported discards per trip and gear, the SEFSC Supplemental Discard Logbook attempts to quantify the reason why discarding occurs using four codes.[10] Fishermen can specify multiple reasons for a species discarded on the same trip and gear.

1) Regulation – Not legal size: Animals that would have been sold, however local or federal size limits forbid it.

[10] More information on the discard logbook is available here https://www.fisheries.noaa.gov/about/southeast-fisheries-science-center.

2) Regulation – Out of season: Animals that would have been sold, however the local or federal fishing season is closed.
3) Regulation – Other: Animals that would have been sold, however a local or federal regulation other than size or season, forbids it (Other than size or season; i.e., protected species, not properly permitted).
4) Market conditions: Animals that have no market value (rotten, damaged).

For the recreational sector, estimates of discards from private recreational and charter fishermen are collected through the Marine Recreational Information Program (MRIP)/Fishing Effort Survey (FES). MRIP/FES replaced the Marine Recreational Fishery Statistics Survey. The Southeast Region Headboat Survey, which includes limited headboat observer sampling, collects discard information from headboat vessels. In addition, in January 2021, NMFS implemented the Southeast For-Hire Electronic Reporting Program, which implemented mandatory electronic reporting of for-hire vessel catch data for over 3,000 vessels in the Gulf of Mexico and South Atlantic. The purpose of this program is to provide more accurate and reliable fisheries information about for-hire catch, effort, and discards.

1. Population Effects for the Bycatch Species

1.1 Amount and Type of Bycatch and Discards

Commercial Sector

The South Atlantic snapper grouper fishery is characterized by moderately high discards, especially of black sea bass, vermilion snapper, and red porgy (Table G.1.1.1 and Figure G.1.1.1). Most discards originate from handline/electric rig and trap gear, with some discards from trolling gear and relatively low discards from longline and diving gear. Trap/pot gear show high levels of discarded black sea bass, which is the targeted species of this gear type, but low levels of bycatch for other species. It is possible that trip-level reporting leads to the relatively high discard estimates from trolling gear; these may be sets using another gear type (i.e., handline/electric rig) on a trip declared as a trolling gear trip. The ratio of commercial landings to commercial discards is not compared because commercial landings are reported in pounds and discards are reported in numbers of fish.

Table G.1.1.1. Top ten species with mean estimated South Atlantic commercial discards (number of fish) during snapper grouper trips (defined as trips with >50% of landings from snapper grouper stocks), sorted from largest to smallest, by gear, for the 2015-2019 period.

Stock	Diver	Stock	Handline / Electric	Stock	Longline	Stock	Trap / Pot	Stock	Troll
Gray Snapper	133	Vermilion Snapper	23,324	Red Grouper	176	Black Sea Bass	25,581	Black Sea Bass	1,114
Hogfish	57	Red Porgy	20,337	Snowy Grouper	157	Trigger-fishes	1,507	Grunts	66
Black Grouper	28	Red Snapper	16,805	**Blueline Tilefish**	**32**	Vermilion Snapper	662	King Mackerel	34
Ocean Triggerfish	10	Black Sea Bass	7,797	Greater Amberjack	26	Gray Triggerfish	407	White Grunt	24
Mutton Snapper	8	Yellowtail Snapper	7,278	Red Snapper	20	White Grunt	207	Gag	19
Red Grouper	5	Gray Triggerfish	3,966	Red Porgy	18	Grunts	161	Dolphin	16
Yellow Jack	2	Trigger-fishes	2,652	Trigger-fishes	5	Red Porgy	94	Black Grouper	13
Yellowtail Snapper	2	Almaco Jack	2,004	**Golden Tilefish**	**2**	Red Snapper	65	Rock Sea Bass	6
Groupers	1	Blue Runner	1,956	Amberjacks	1	Gag	23	Trigger-fishes	5
King Mackerel	1	Greater Amberjack	1,510	Blackfin Snapper	1	Red Grouper	6	Greater Amberjack	3

Source: SEFSC Coastal Logbook (accessed May 2020) and Discard Logbook (accessed May 2020). Note: Commercial gray triggerfish includes the "triggerfishes, unclassified" category.

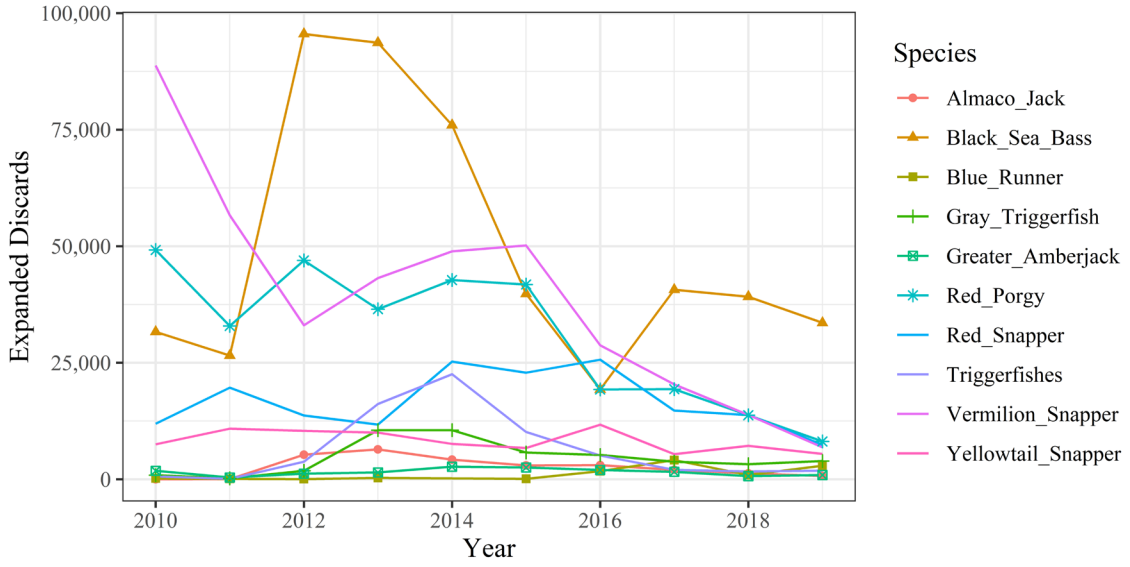

Figure G.1.1.1. Expanded self-reported commercial discards (numbers of fish) for the top ten species discarded during snapper grouper trips (defined as trips with >50% of landings from snapper grouper stocks) from 2010-2019 for all gear types.
Source: SEFSC Coastal Logbook (accessed May 2020) and Discard Logbook (accessed May 2020).

Of the four discard codes, regulations (i.e., not legal size and out of season) was the most common reason selected for the most commonly discarded snapper grouper species based on

self-reported discards (Table G.1.1.2). The minimum size limit appears to be the primary driver of commercial discards for black sea bass, gag, gray snapper, gray triggerfish, greater amberjack, and yellowtail snapper. Out of season appears to be the primary driver of discards for almaco jack, red porgy, red snapper, and vermilion snapper. Golden tilefish and blueline tilefish are not listed in the top ten of discards for the snapper-grouper fishery.

Table G.1.1.2. The percentage of unexpanded discards for each discard reason out of the total number of self-reported discards reported to the Supplemental Discard Logbook for the top ten snapper grouper species discarded in the South Atlantic from 2015 through 2019. Some percentages may not sum to 100% due to rounding.

Species	Not Legal Size	Out of Season	Other Regulations	Market Conditions
Almaco Jack	4%	72%	7%	17%
Black Sea Bass	99%	0%	0%	0%
Gag	78%	20%	0%	2%
Gray Snapper	91%	0%	0%	8%
Gray Triggerfish	59%	39%	1%	0%
Greater Amberjack	77%	20%	3%	1%
Red Porgy	19%	78%	2%	0%
Red Snapper	2%	78%	20%	0%
Vermilion Snapper	43%	50%	7%	0%
Yellowtail Snapper	92%	6%	2%	0%

Sources: SEFSC Supplemental Commercial Discard Logbook (May 2020).

Recreational Sector

From 2015 through 2019, the most discarded species on trips capturing a snapper grouper species was black sea bass for all three modes (Table G.1.1.3). Red snapper, tomtate, yellowtail snapper, and grunt species were in the top ten for all modes.

Table G.1.1.3. From 2015 through 2019, the top ten species with discards reported on trips capturing a snapper grouper species by recreational mode. Species are sorted by number of total discards for each mode from 2015-2019.

Rank	HEADBOAT		CHARTER		PRIVATE	
	Species	Discards (N)	Species	Discards (N)	Species	Discards (N)
1	Black Sea Bass	2,362,007	Black Sea Bass	1,464,909	Black Sea Bass	40,129,026
2	Vermilion Snapper	461,562	Red Snapper	601,973	Gray Snapper	21,989,786
3	Tomtate	327,379	Yellowtail Snapper	529,770	Pinfish	10,632,466
4	White Grunt	294,025	Tomtate	472,005	Red Snapper	9,907,110
5	Yellowtail Snapper	278,821	Vermilion Snapper	416,724	Yellowtail Snapper	6,926,752
6	Red Snapper	258,627	Gray Snapper	275,171	Tomtate	6,619,263
7	Gray Triggerfish	183,024	Mutton Snapper	149,472	Hardhead Catfish	5,036,604
8	Blue Runner	121,476	Blue Runner	133,872	Grunt (family)	4,961,629
9	Grunts (unidentified)	99,496	Grunt (family)	128,757	Atlantic Croaker	4,675,997
10	Atlantic Sharpnose Shark	90,504	Greater Amberjack	112,017	Gray Triggerfish	3,828,858

Sources: MRIP FES data from SEFSC Recreational ACL Dataset (September 2020); Headboat data from SEFSC Headboat Logbook CRNF files (expanded; July 2020).

Recreational discards of several snapper grouper species are higher than the landings for certain modes of fishing (Table G.1.1.4). Red snapper, black sea bass, red grouper, and tomtate discards are many times higher than their landings across all modes. Across most of the snapper grouper species, the magnitude of private mode discards is much higher compared to the headboat or charter modes. Neither golden tilefish or blueline tilefish rank in the top ten of discards in headboat, charter or private modes.

Table G.1.1.4. South Atlantic snapper grouper headboat, charter, and private mean annual estimates of landings and discards (2015-2019). Headboat and MRIP (charter and private) landings and discards are in numbers of fish.

Species	HEADBOAT			CHARTER			PRIVATE		
	Landings (N)	Discards (N)	Ratio (D:L)	Landings (N)	Discards (N)	Ratio (D:L)	Landings (N)	Discards (N)	Ratio (D:L)
Almaco Jack	8,345	1,683	20%	12,752	2,921	23%	70,012	237,235	339%
Black Sea Bass	48,095	472,401	982%	37,817	288,186	762%	484,547	7,953,343	1,641%
Gag	679	805	118%	2,387	2,257	95%	21,664	57,088	264%
Gray Triggerfish	39,606	36,605	92%	53,395	19,237	36%	306,482	765,772	250%
Greater Amberjack	3,757	3,555	95%	24,570	22,404	91%	69,007	128,035	186%
Mutton Snapper	15,939	15,516	97%	24,579	29,894	122%	208,691	576,812	276%
Red Grouper	2,577	8,675	337%	3,282	8,902	271%	53,718	142,866	266%
Red Porgy	12,095	12,765	106%	14,248	8,922	63%	109,050	83,622	77%
Red Snapper	2,461	51,725	2,102%	6,033	120,395	1,996%	211,833	1,981,423	935%
Scamp	1,554	1,044	67%	3,174	193	6%	2,775	1,458	53%
Snowy Grouper	501	4	1%	1,936	165	9%	2,536	599	24%
Tomtate	44,536	65,476	147%	13,456	94,401	702%	439,869	1,323,853	301%
Vermilion Snapper	128,029	92,312	72%	73,407	83,345	114%	435,534	661,292	152%
White Grunt	149,852	58,805	39%	26,450	8,944	34%	517,265	350,516	68%
Whitebone Porgy	5,083	1,720	34%	3,475	325	9%	25,948	3,740	14%
Yellowtail Snapper	134,139	55,764	42%	239,421	105,954	44%	1,002,876	1,385,351	138%

Sources: MRIP FES data from SEFSC Recreational ACL Dataset (September 2020); Headboat data from SEFSC Headboat Logbook CRNF files (expanded; July 2020).

1.2 Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality

Expected Impacts on Bycatch for the Subject Amendment Actions

Action 1 would revise the golden tilefish overfishing limit, acceptable biological catch, total annual catch limit, and annual optimum yield. Action 2 would revise the overfishing limit (OFL) acceptable biological catch (ABC), total annual catch limit (ACL), and annual optimum yield (OY) for golden tilefish. The Council selected Alternative 2 as the preferred alternative, which proposes an ABC, total ACL, and annual OY that are equal to the ABC level recommended by the Council's SSC. The proposed ABCs, ACLs, and OYs would lead to a slight increase in harvest of golden tilefish. Since the magnitude of the proposed increase in the ACL is small, substantial changes in fishing effort or behavior are not expected as a result of this action. Therefore, no changes to the bycatch are discards are expected under Action 1.

Action 2 would revise the sector allocations for golden tilefish and sector ACLs to reflect the updated ABC level recommended by the Council's SSC and chosen by the Council. The Council selected Alternative 2 as the preferred alternative, which proposes an allocation of 96.70% of the total annual catch limit for golden tilefish to the commercial sector and 3.30% to the recreational sector. This allocation scenario slightly increases the commercial sector allocation from the status quo to account for a difference between FES and CHTS landings.

Because the commercial sector tends to be able to access the deeper waters easier than the recreational sector, it is possible that Preferred Alternative 2 could slightly increase overall discard mortality of golden tilefish. However, the change in allocation is very small and the proposed allocations are not expected to result in changes to fishing activity or behavior in the snapper grouper fishery; thus, no changes in bycatch of co-occurring species are expected as a result of Action 2.

Action 3 would modify commercial fishing year for golden tilefish. The Council selected Alternative 3, Sub-alternative 3a as the preferred alternatives, which proposes a start date for the commercial longline sector to be January 15. This two week adjustment in the start date would result in a gap between the hook and line and longline sectors. The preferred alternative would shift the longline fishing year slightly but would not be expected to change bycatch or discards of co-occurring species.

Action 4 would modify the recreational accountability measure for golden tilefish. The Council has selected Preferred Alternative 3 in which NMFS would annually announce the length of the recreational fishing season based on catch rates from the previous season. While the end date for golden tilefish may shift each year, announcing at the beginning of the season would allow private anglers and for-hire businesses to plan their activities around the closure in advance. However, if an unforeseen increase in recreational effort occurred rendering the season length projections inaccurate, this alternative could result in negative biological impacts and increased discards as it would not correct for an overage if it occurred. Because golden tilefish are incidentally harvested while recreational fishers target other snapper grouper species, no

substantial changes to fishing activity or behavior are expected; thus, no changes in bycatch are expected for Action 4.

Action 5 would modify the recreational bag limits for blueline tilefish. The Council selected Alternative 2 and Alternative 4 as preferred. Alternative 2 would reduce the recreational bag limit to two fish per person and Alternative 4 would eliminate the retention of blueline tilefish by captain and crew. A reduction in the recreational bag limit could lead to an increase in discards due to high-grading. Not allowing captain and crew to catch and keep a bag limit may reduce discards slightly.

Action 6 would modify the fishing year for recreational blueline tilefish to run from May 1 through June 30 (Alternative 4). Blueline tilefish are a deepwater species and consequently experience high release mortality. This reduction is season length could lead to an increase in discards of blueline tilefish and other deepwater species (snowy grouper and other tilefishes).

Action 7 would modify the recreational accountability measure for blueline tilefish. The Council has selected Preferred Alternative 3 in which NMFS would annually announce the length of the recreational fishing season based on catch rates from the previous season. While the end date for blueline tilefish may shift each year, announcing at the beginning of the season would allow private anglers and for-hire businesses to plan their activities around the closure in advance. However, if an unforeseen increase in recreational effort occurred rendering the season length projections inaccurate, this alternative could result in negative biological impacts and increased discards as it would not correct for an overage if it occurred. Because blueline tilefish are incidentally harvested while recreational fishers target other snapper grouper species, no substantial changes to fishing activity or behavior are expected; thus, no changes in bycatch are expected for Action 6.

Past, Current, and Future Actions to Prevent Bycatch and Improve Monitoring of Harvest, Discards, and Discard Mortality

Actions taken in the Snapper Grouper FMP related to management of golden tilefish and blueline tilefish, including actions that could reduce bycatch and bycatch mortality of blueline and golden tilefish and other snapper grouper species, are outlined in Section 1.7 of this amendment. Other past, current, and future actions that could prevent bycatch and/or improve monitoring of harvest, discards, and discard mortality are included below.

Amendment 16 to the Snapper Grouper FMP (SAFMC 2009) required the use of dehooking devices, which could help reduce bycatch mortality of snapper grouper species. Dehooking devices can allow fishermen to remove hooks with greater ease and more quickly without removing the fish from the water. If a fish does need to be removed from the water, de-hookers reduce handling time thus increasing survival (Cooke et al. 2001).

Amendment 17A to the Snapper Grouper FMP (SAFMC 2010) required circle hooks for snapper grouper species north of 28 degrees latitude, which has likely reduced bycatch mortality of some snapper grouper species.

The Comprehensive Ecosystem-Based Amendment 2 (CE-BA 2; SAFMC 2011a) included actions that modified management of special management zones (SMZ) off South Carolina; revised sea turtle release gear requirements for the snapper grouper fishery that were established in Amendment 15B to the Snapper Grouper FMP (SAFMC 2008); and designated new essential fish habitat (EFH) and EFH-Habitat Areas of Particular Concern in the South Atlantic. CE-BA 2 also included an action that limited harvest and possession of snapper grouper and coastal migratory pelagic (CMP) species to the bag limit in SMZs off South Carolina. This action likely reduced bycatch around SMZs by restricting commercial harvest in the area, but has probably had limited effect on the magnitude of overall bycatch of snapper grouper species in the South Atlantic.

The Comprehensive ACL Amendment (SAFMC 2011b) implemented ACLs and AMs for species not undergoing overfishing in the FMPs for snapper grouper, dolphin and wahoo, golden crab, and *Sargassum*, in addition to other actions such as allocations and establishing annual catch targets for the recreational sector. ACLs and AMs have likely reduced bycatch of target species as well as incidentally caught species.

The Council's Headboat Electronic Reporting Amendment (SAFMC 2013) changed the reporting frequency by headboats from monthly to weekly, and required that reports be submitted electronically. The action is expected to provide more timely information on landings and discards. Improved information on landings would help ensure ACLs are not exceeded. Furthermore, more timely and accurate information would be expected to provide a better understanding of the composition and magnitude of catch and bycatch, enhance the quality of data provided for stock assessments, increase the quality of assessment output, and lead to better decisions regarding additional measures to reduce bycatch.

Amendment 36 to the Snapper Grouper FMP (SAFMC 2016) established SMZs and is expected to reduce bycatch of many snapper grouper species, especially speckled hind and Warsaw grouper.

The Council developed a joint For-Hire Reporting Amendment (SAFMC 2017) with the Gulf of Mexico Fishery Management Council that requires all federally permitted charter vessels report landings information weekly to the SEFSC electronically. Additionally, the Councils will also begin development of a joint amendment to require that all federally permitted commercial fishing vessels in the southeast also report their logbook landings information electronically. These future actions will help to improve estimates on the composition and magnitude of catch and bycatch of species affected by this amendment, as well as all other federally managed species in the southeast region.

Amendment 42 to the Snapper Grouper FMP (SAFMC 2019c) modified sea turtle release gear regulations for the commercial snapper grouper fishery and modified the snapper grouper framework so the Council may more quickly modify sea turtle and other protected resources release gear and handling requirements in the future.

Regulatory Amendment 29 to the Snapper Grouper FMP (SAFMC 2020) required descending devices be on board all commercial, for-hire, and private recreational vessels while fishing for or

possessing snapper grouper species; the use of non-offset, non-stainless steel circle hooks when fishing for snapper grouper species with hook-and-line gear and natural baits north of 28° N latitude; and all hooks be non-stainless steel when fishing for snapper grouper species with hook-and-line gear and natural baits throughout South Atlantic federal waters. The Council has also implemented an extensive outreach and public education program, which along with its citizen science initiative is promoting best fishing practices for all the species it manages.

Regulatory Amendment 31 to the Snapper Grouper FMP (included in the Comprehensive Recreational AMs Amendment) could include actions to revise recreational AMs to allow more flexibility in managing recreational fisheries.

Amendment 46 to the Snapper Grouper FMP proposes actions to focus on private recreational permit and reporting. Work on this amendment is currently on hold.

These past, current, and potential future actions will help to improve estimates on the composition and magnitude of catch and bycatch of federally managed species in the southeast region and minimize discard mortality. Additional information on fishery related actions from the past, present, and future considerations can be found in Chapter 6 (Cumulative Effects) of the amendment.

2. Ecological Effects Due to Changes in Bycatch

Release mortality rates for the snapper grouper fishery are widely variable species to species and sector to sector, and are dependent on fishing mode (Table G.2.2.1). For instance, recreational discards of red snapper in the South Atlantic are a main driver in the overfishing determination for the stock (SEDAR 41 2017). However, discard mortality estimates for snapper grouper species are variable and highly uncertain. Generally, release mortality is highly correlated with depth for snapper grouper species, with highest mortality among fish captured in deep water (Campbell et al. 2014; Pulver 2017; Rudershausen et al. 2014; Stephen and Harris 2010; Wilson and Burns 1996). Both golden tilefish and blueline tilefish are deepwater species so release mortality rates tend to be high.

Table G.2.2.1. Release mortality rates of select recreationally and commercially important snapper-grouper species from recent stock assessments.

Species	Fishery	Release mortality	Data Source
Black Sea Bass	Recreational	13.7%	SEDAR 56 (2018)
Black Sea Bass	Commercial Trap/Pot (2007- present)	6.8%	SEDAR 56 (2018)
Black Sea Bass	Commercial Vertical Line	19%	SEDAR 56 (2018)
Gag	Recreational	25%	SEDAR 10 Update (2014)
Gag	Commercial	40%	SEDAR 10 Update (2014)
Gray Triggerfish	Recreational & Commercial	12.5%	SEDAR 41 (2016)
Greater Amberjack	Recreational & Commercial	20%	SEDAR 59 (2020)
Red Porgy	Recreational	41%	SEDAR 60 (2020)

Species	Fishery	Release mortality	Data Source
Red Porgy	Commercial	53%	SEDAR 60 (2020)
Red Snapper	Recreational - Private	23%	SEDAR 73 (2021)
Red Snapper	Recreational - Charter & Headboat	22%	SEDAR 73 (2021)
Red Snapper	Commercial	32%	SEDAR 73 (2021)
Vermilion snapper	Recreational	38%	SEDAR 55 (2018)
Vermilion snapper	Commercial	41%	SEDAR 55 (2018)
Yellowtail snapper	Recreational	15%	SEDAR 64 (2020)
Yellowtail snapper	Commercial	12.5%	SEDAR 64 (2020)

It is likely that most mortality is a function of hooking and handling of the fish when the hook is being removed. Regulatory Amendment 29 to the Snapper Grouper FMP (SAFMC 2020) required descending devices be on board all commercial, for-hire, and private recreational vessels while fishing for or possessing snapper grouper species; the use of non-offset, non-stainless steel circle hooks when fishing for snapper grouper species with hook-and-line gear and natural baits north of 28° N latitude; and all hooks be non-stainless steel when fishing for snapper grouper species with hook-and-line gear and natural baits throughout South Atlantic federal waters. The Council also implemented an extensive outreach and public education program, which along with its citizen science initiative is promoting best fishing practices for all the species it manages. The goal of these regulations is to reduce discard mortality for snapper grouper species.

The actions contained in this amendment are not expected to result in substantial changes to bycatch in the snapper grouper fishery; thus, ecological effects due to changes in bycatch in this fishery are expected to be negligible. For more details on ecological effects, see Chapters 3 and 4 of this amendment.

3. Changes in the Bycatch of Other Fish Species and Resulting Population and Ecosystem Effects

Amendment 52 could result in an increase in bycatch of other deepwater species such as snowy grouper. The snapper grouper fishery is characterized by a high number of discards for all species and sectors (Table G.1.1.1 and G.1.1.3). Both sectors likely target a wide range of species, including dolphin wahoo, snapper grouper, and coastal migratory pelagic species during each trip. This results in a varied amount and type of bycatch of species. However, the actions in this amendment are not expected to alter overall fishing activity or behavior in the fishery; thus, no changes in bycatch of other species are expected.

4. Effects on Marine Mammals and Birds

Marine Mammals

Under Section 118 of the Marine Mammal Protection Act (MMPA), the NMFS must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. The longline and hook-and-line gear components of the snapper grouper fishery are determined to have remote likelihood of / no known interactions with marine mammals (Category III, LOF, 86 FR 43491; August 9, 2021).

Sea Birds

The Bermuda petrel and roseate tern occur within the action area. Bermuda petrels are occasionally seen in the waters of the Gulf Stream off the coasts of North Carolina and South Carolina during the summer. Sightings are considered rare and only occurring in low numbers (Alsop 2001). Roseate terns occur widely along the Atlantic coast during the summer but in the southeast region, they are found mainly off the Florida Keys (unpublished US Fish and Wildlife Service data). Interaction with fisheries has not been reported as a concern for either of these species. Although, the Bermuda petrel and roseate tern occur within the action area, these species are not commonly found and neither has been described as associating with vessels or having had interactions with the dolphin wahoo fishery. Thus, the fishery is not likely to adversely affect the Bermuda petrel and the roseate tern.

5. Changes in Fishing, Processing, Disposal, and Marketing Costs

The actions proposed in Amendment 52 are not expected to substantially alter fishing practices, processing, disposal, or marketing costs in the near or short term in relation to bycatch or discards in the snapper grouper fishery. As shown in the analyses in Chapter 4 of the preferred alternatives for actions potentially affecting catch, costs are not expected to change. Similarly in the long term, it is more likely that current fishing, processing, disposal, and marketing costs would be maintained at or near their status quo levels, thus leading to no anticipated changes.

6. Changes in Fishing Practices and Behavior of Fishermen

As discussed above, the actions proposed in Amendment 52 are not expected to change fishing practices or fishing behavior, and are likely to have little effect on the overall magnitude of discards. Also, any changes to fishing behavior and subsequent changes in the level of discards or discard mortality that may result from the actions in the amendment are expected to be small, and would not jeopardize the sustainability of any target or non-target species.

7. Changes in Research, Administration, and Enforcement Costs and Management Effectiveness

Research

Research and monitoring is ongoing to understand the effectiveness of implemented management measures and their effect on bycatch. The SEFSC is developing electronic logbooks, which could be used to enable fishery managers to obtain information on species composition, size distribution, geographic range, disposition, and depth of fishes that are released. Further, a joint Commercial Logbook Reporting Amendment is being developed by the Council and the Gulf of Mexico Fishery Management Council, which would require electronic reporting of landings information by federally permitted commercial vessels to increase the timeliness and accuracy of landings and discard data. The For-Hire Reporting Amendment could improve timeliness and quality of data for the charter and headboat components of the recreational sector.

Cooperative research projects between science and industry are available each year in the form of grants from Marine Fisheries Initiative, Saltonstall-Kennedy program, and the Cooperative Research Prom. These programs can provide research funds for observer programs, as well as gear testing and testing of electronic devices. A condition of funding for these projects is that data are made available to the Councils and NMFS upon completion of a study.

Administration

The proposed actions are not expected to significantly impact administrative costs.

Enforcement

The proposed actions are not expected to significantly impact enforcement costs.

8. Changes in the Economic, Social, or Cultural Value of Fishing Activities and Non-Consumptive Uses of Fishery Resources

Changes in economic, social, or cultural values are discussed in Chapter 4. None of the actions and alternatives in Amendment 52 are likely to change the current level of bycatch of target or non-target species in the South Atlantic and thus are unlikely to change the social, economic, or cultural value of fishing activities and non-consumptive uses of the snapper grouper fishery.

9. Changes in the Distribution of Benefits and Costs

The distribution of benefits and costs expected from the proposed actions in Amendment 52 are discussed in the economic and social effects analysis in Chapter 4. These effects are discussed in relation to the baseline economic and social conditions of the fishery and fishing communities outlined in Chapter 3 of the document. Additionally, the Regulatory Impact Review (Appendix B) and Regulatory Flexibility Act Analysis (Appendix C) provide additional information on changes in the distribution of benefits and costs. Overall, almost no such alterations would be caused by changes to bycatch resulting from this amendment.

10. Social Effects

The baseline social environment and social effects of the proposed actions are described in Chapters 3 and 4 of Amendment 52, respectively. In general, fishermen become frustrated as waste of the resource due to regulatory bycatch of target and non-target species increases. This often results in a distrust of science in that regulations are intended to protect stocks and rebuild overfished stocks by reducing such bycatch. However, none of the actions and alternatives in Amendment 52 are likely to change the current level of bycatch of target or non-target species in the South Atlantic and thus are unlikely to result in the negative social effects described.

11. Conclusion

This BPA evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality using the ten factors provided at 50 CFR section 600.350(d)(3)(i). In summary, the proposed actions in Amendment 52 are not likely to significantly contribute or detract from the current level of bycatch in the snapper grouper fishery. The Council, NMFS, and the SEFSC have implemented and plan to implement numerous management measures and reporting requirements that have improved, or are likely to improve monitoring efforts of discards and discard mortality.

12. References

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Appendix H. Fishery Impact Statement-UPDATE

The Magnuson-Stevens Fishery Conservation and Management Act requires a Fishery Impact Statement (FIS) be prepared for all amendments to fishery management plans (FMP). The FIS contains an assessment of the expected and potential biological, economic, and social effects of the conservation and management measures on: 1) fishery participants and their communities; 2) participants in the fisheries conducted in adjacent areas under the authority of another Council; and 3) the safety of human life at sea. Detailed discussion of the expected effects for all proposed changes is provided in Chapters 1 and 2. The FIS provides a summary of these effects.

Actions Contained in Amendment 52 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 52)

Amendment 52 would modify management of South Atlantic red porgy. Actions include …… The actions and their preferred alternatives are:

- **Action 1**. .
  - **Preferred Alternative** .
- **Action 2**. ..
  - **Preferred Alternative** .

Assessment of Biological Effects

Assessment of Economic Effects

Assessment of the Social Effects

Assessment of Effects on Safety at Sea

Amendment 52 is not expected to result in direct impacts to safety at sea.

Appendix I. History of Management

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 Snapper Grouper Fishery Management Plan (FMP), as well as some events not covered in amendment actions.

*Shaded rows indicate FMP Amendments

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.
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.
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.

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.
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 (OY) and overfishing; -Required permit to fish for, land or sell wreckfish; -Required catch and effort reports from selected, permitted vessel; -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.
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);

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.
			-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; -Spawning season closure – commercial harvest mutton snapper >snapper aggregate prohibited during May and June; -Charter/headboats and excursion boat possession limits extended.
Amendment #5 (1992a)	04/06/92	PR: 56 FR 57302 FR: 57 FR 7886	For 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	For 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	For 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	-For 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 South Carolina, where only hand-held, hook-and-line gear and spearfishing (excluding powerheads) was allowed.

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 #6 (1993)	06/27/94	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 black sea bass pot fishery off South Atlantic states after 04/23/97 was not assured of future access if limited entry program developed.
Interim Rule Request	1/16/98		-The South Atlantic Fishery Management Council (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.
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 have demonstrated landings of any species in the snapper grouper FMU in 1993, 1994, 1995 or 1996; and have held valid snapper grouper 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;

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.
			-Granted non-transferable permit with 225 lb trip limit to all other vessels; -Modified problems, objectives, OY, and overfishing definitions; -Expanded the 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.
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.
Regulatory Amendment #7 (1998a)	01/29/99	PR: 63 FR 43656 FR: 63 FR 71793	-Established 10 SMZs at artificial reefs off South Carolina.
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; -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.
Emergency Action	9/3/99	64 FR 48326	-Reopened the Amendment 8 permit application process.
Emergency Interim Rule	09/08/99, expired 08/28/00	64 FR 48324 and 65 FR 10040	-Prohibited harvest or possession of red porgy.

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 #10 Comprehensive Essential Fish Habitat Amendment (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.
Amendment #11 Comprehensive Sustainable Fisheries Act Amendment (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]*BMSY. MFMT = FMSY.
Amendment #12 (2000a)	09/22/00	PR: 65 FR 35877 FR: 65 FR 51248	For 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 commercial trip limit May-December; -Modified management options and list of possible framework actions.

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Regulatory Amendment #8 (2000b)	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 #9 (1998b) resubmitted	10/13/00	PR: 63 FR 63276 FR: 65 FR 55203	-Commercial trip limit for greater amberjack.
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 species within the Oculina Experimental Closed Area.
Notice of Control Date	10/14/05	70 FR 60058	-Considered 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 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: Limited 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: 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; -Required 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; -Required black sea bass pots be removed from the water when the quota is met; -Changed fishing year from calendar year to June 1 – May 31;

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			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. Increased the minimum size limit from 10" to 11" in year 1 and to 12" in year 2; -Reduced recreational bag limit from 20 to 15 per person per day; -Changed fishing year from the calendar year to June 1 through May 31. 5. Red Porgy Commercial and recreational: -Retained 14" TL size limit and seasonal closure (retention limited to the bag limit); -Specified 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; -Increased commercial trip limit from 50 lb ww to 120 red porgy (210 lb gw) during May through December; -Increased recreational bag limit from one to three red porgy per person per day.
Notice of Control Date	3/8/07	72 FR 60794	-Considered 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	-Established 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	- Established rebuilding plans and status determination criteria for snowy grouper, black sea bass, and red porgy.
Notice of Control Date	12/4/08	74 FR 7849	-Established a control date for the golden tilefish portion of the snapper grouper fishery in the South Atlantic.
Notice of Control Date	12/4/08	74 FR 7849	-Established control date for black sea bass pot sector in the South Atlantic.
Amendment #15B (2008b)	12/16/09, except for the amendments to § 622.18(c) was effective 11/16/2009; the amendment to § 622.10(c) was effective 2/16/2010; and §§ 622.5, 622.8, and 622.18(b)(1)(ii) required OMB approval.	PR: 74 FR 30569 FR: 74 FR 58902	-Prohibited the sale of snapper-grouper harvested or possessed in the EEZ under the bag limits and prohibited the sale of snapper-grouper harvested or possessed under the bag limits by vessels with a Federal charter vessel/headboat permit for South Atlantic snapper-grouper regardless of where harvested; -Reduced the effects of incidental hooking on sea turtles and smalltooth sawfish; -Adjusted commercial permit renewal periods and transferability requirements; -Revised the management reference points for golden tilefish; -Implemented plan to monitor and assess bycatch; -Required a vessel that fished in the EEZ, if selected by NMFS, to carry an observer and install electronic

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			logbook and/or video monitoring equipment provided by NMFS; -Established allocations for snowy grouper (95% commercial & 5% recreational); -Established allocations for red porgy (50% commercial & 50% recreational).
Amendment #16 (2009a)	7/29/09	PR: 74 FR 6297 FR: 74 FR 30964	-Specified status determination criteria for gag and vermilion snapper; For gag: -Specified interim allocations 51% commercial & 49% recreational; -Recreational and commercial shallow water grouper spawning closure January through April; -Directed commercial quota= 352,940 lb gw; -Reduced 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: -Specified interim allocations 68% commercial & 32% recreational; -Directed commercial quota split Jan-June=315,523 lb gw and 302,523 lb gw July-Dec; -Reduced bag limit from 10 to 4 and a recreational closed season November through March; -Required possession of dehooking tools when catching snapper grouper species to reduce recreational and commercial bycatch mortality.
Amendment #19 Comprehensive Ecosystem-Based Amendment 1 (CE-BA1) (2009b)	7/22/10	PR: 75 FR 14548 FR: 75 FR 35330	-Amended coral, coral reefs, and live/hardbottom habitat FMP to establish deepwater coral HAPCs; -Created a "shrimp fishery access area" (SFAA) within the Stetson-Miami Terrace CHAPC boundaries; -Created allowable "golden crab fishing areas" with the Stetson-Miami Terrace CHAPC and Pourtales Terrace CHAPC boundaries.
Amendment #17A (2010a)	12/3/10 red snapper closure; circle hooks 3/3/2011	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 and natural bait north of 28 deg. N latitude in the South Atlantic EEZ; -Specified an annual catch limit (ACL) and an accountability measure (AM) for red snapper with management measures to reduce the probability that catches will exceed the stocks' ACL; -Specified a rebuilding plan for red snapper; -Specified status determination criteria for red snapper; -Specified a fishery-independent monitoring program for red snapper. -Implemented an area closure for snapper-grouper species.

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Emergency Rule	12/3/10	75 FR 76890	-Delayed the effective date of the area closure for snapper grouper species implemented through Amendment 17A.
Amendment #17B (2010b)	1/31/11	PR: 75 FR 62488 FR: 75 FR 82280	-Specify ACL of 0 and prohibit fishing for speckled hind and warsaw grouper; -Prohibited harvest of 6 deepwater species seaward of 240 feet to curb bycatch of speckled hind and warsaw grouper (snowy grouper, blueline tilefish, yellowedge grouper, misty grouper, queen snapper, silk snapper). -Specify allocations (97% commercial, 3% recreational), ACLs and AMs for golden tilefish; -Modified management measures as needed to limit harvest to the ACL or ACT; -Updated the framework procedure for specification of total allowable catch; -Specified ACLs, ACTs, and AMs, where necessary, for 9 species undergoing overfishing (snowy grouper, black grouper, black sea bass, red grouper, vermilion snapper, gag, speckled hind, warsaw grouper, golden tilefish);
Notice of control date	1/31/11	76 FR 5325	Anyone entering federal snapper grouper fishery off S. Atlantic states after 09/17/10 was not assured of future access if limited entry program developed.
Regulatory Amendment #9 (2010a)	Bag limit: 6/22/11 Trip limits: 7/15/11	PR: 76 FR 23930 FR: 76 FR 34892	-Established trip limits for vermilion snapper and gag; -Increased trip limit for greater amberjack; - Set black sea bass recreational bag limit at 5 fish per person per day
Regulatory Amendment #10 (2010b)	5/31/11	PR: 76 FR 9530 FR: 76 FR 23728	-Eliminated closed area for snapper grouper species approved in Amendment 17A.
Regulatory Amendment #11 (2011c)	5/10/12	PR: 76 FR 78879 FR: 77 FR 27374	-Eliminated 240 ft harvest prohibition for six deepwater species (snowy grouper, blueline tilefish, yellowedge grouper, queen snapper, silk snapper, misty grouper);
Amendment # 25 Comprehensive Annual Catch Limit Amendment (2011d)	4/16/12	PR: 76 FR 74757 Amended PR: 76 FR 82264 FR: 77 FR 15916	-Reorganize FMUs to 6 complexes (deepwater, jacks, snappers, grunts, shallow-water groupers, porgies) (see final rule for species list); -Established acceptable biological catch (ABC) control rules and established ABCs, ACLs, and AMs for species not undergoing overfishing; -Established jurisdictional ABC allocations between the SAFMC and GMFMC for yellowtail snapper, mutton snapper, and black grouper; -Removed some species from South Atlantic FMU (Tiger grouper, black margate, blue-striped grunt, French grunt, porkfish, smallmouth grunt, queen triggerfish, crevalle, yellow jack, grass porgy, sheepshead, puddingwife);

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			-Designated species as ecosystem component species (schoolmaster, ocean triggerfish, bank triggerfish, rock triggerfish, longspine porgy); -Specified allocations between the commercial and, recreational sectors for species not undergoing overfishing; -Limited the total mortality for federally managed species in the South Atlantic to the ACLs.
Amendment #24 (2011e)	7/11/12	PR: 77 FR 19169 FR: 77 FR 34254	-Rebuilding plan (including MSY, ACLs, AMs, and OY, and allocations) for red grouper
Amendment #23 Comprehensive Ecosystem-based Amendment 2 (CE-BA2) (2011f)	1/30/12	PR: 76 FR 69230 FR: 76 FR 82183	-Designated the Deepwater MPAs as EFH-HAPCs; -Modify management measures for Octocoral; -Limit harvest of snapper grouper species in SC SMZs to the bag limit; -Modify sea turtle release gear; -Designated new EFP for pelagic Sargassum habitat.
Amendment #18A (2012a)	7/1/12	PR: 77 FR 16991 FR: 77FR3 2408	-Modified the rebuilding strategy, ABC , ACL, ACT for black sea bass; -Limited participation and effort in the black sea bass sector; -Modifications to management of the black sea bass pot sector; -Improved data reporting (accuracy, timing, and quantity of fisheries statistics).
Amendment #20A (2012b)	10/26/12	PR: 77 FR 19165 FR: 77 FR 59129	- Individual transfer quota (ITQ) program for wreckfish: -Defined and reverted inactive shares; -Redistributed reverted shares; -Established a share cap; -Established an appeals process.
Regulatory Amendment #12 (2012c)	10/9/12	PR: 77 FR 42688 FR: 77 FR 61295	-Revised the ACL and OY for golden tilefish; -Revised recreational AMs for golden tilefish;
Yellowtail snapper Emergency Rule	11/7/2012, through 5/6/2013	77 FR 66744	-Increased the commercial ACL for yellowtail snapper from 1,142,589 lb to 1,596,510 lb.
Amendment #18B (2013a)	5/23/13	PR: 77 FR 75093 FR: 77 FR 23858	For Golden Tilefish: -Limited participation and effort in the commercial sector through establishment of a longline endorsement; -Established eligibility requirements and allowed transferability of longline endorsement; -Established an appeals process; -Modified trip limits; -Specified allocations and ACLs for gear groups (longline:7 % and hook-and-line:25%);

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Amendment #28 (2013b)	8/23/13	PR: 78 FR 25047 FR: 78 FR 44461	-Established regulations to allow harvest of red snapper in the South Atlantic (formula used to compute ACLs, AMs, fishing seasons).
Regulatory Amendment #13 (2013c)	7/17/13	PR: 78 FR 17336 FR: 78 FR 36113	-Revised the ABCs, ACLs (including sector ACLs), and ACTs for 37 species implemented by the Comprehensive ACL Amendment (see final rule for list of species). The revisions may prevent a disjunction between the established ACLs and the landings used to determine if AMs are triggered.
Regulatory Amendment #15 (2013d)	9/12/13	PR: 78 FR 31511 FR: 78 FR 49183	-Modified ACLs and OY for yellowtail snapper; -Modified the gag commercial ACL and AM to remove the requirement that all other shallow water groupers (black grouper, red grouper, scamp, red hind, rock hind, graysby, coney, yellowmouth grouper, and yellowfin grouper) are prohibited from harvest in the South Atlantic when the gag commercial ACL is met or projected to be met.
Regulatory Amendment #18 (2013e)	9/5/13	PR: 78 FR 26740 FR: 78 FR 47574	-Revised ACLs and OY for vermilion snapper; -Modified commercial trip limit for vermilion snapper; -Modified commercial fishing season and recreational closed season for vermilion snapper; -Revised ACLs and OY for red porgy.
Regulatory Amendment #19 (2013f)	ACL: 9/23/13 Pot closure: 10/23/13	PR: 78 FR 39700 FR: 78 FR 58249	-Specified ABC, and adjusted the ACL, recreational ACT and OY for black sea bass; -Implemented an annual closure on the use of black sea bass pots from November 1 to April 30.
Amendment #27 (2013g)	1/27/2014	PR:78 FR 78770 FR: 78 FR 57337	-Established the South Atlantic Council as the responsible entity for managing Nassau grouper throughout its range including federal waters of the Gulf of Mexico; -Modified the crew member limit on dual-permitted snapper grouper vessels; -Modified the restriction on retention of bag limit quantities of some snapper grouper species by captain and crew of for-hire vessels; -Minimized regulatory delay when adjustments to snapper grouper species' ABC, ACLs, and ACTs are needed as a result of new stock assessments; -Removed blue runner from snapper grouper FMP; -Addressed harvest of blue runner by commercial fishermen who do not possess a South Atlantic Snapper Grouper Permit.
Amendment #31 Joint South Atlantic and Gulf of Mexico Generic Headboat Reporting Amendment (2013h)	1/27/2014	PR: 78 FR 59641 FR: 78 FR 78779	-Required electronic reporting for headboat vessels at weekly intervals.

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Blueline Tilefish Emergency Rule	4/17/2014 through 10/10/2014 or 4/18/2015	PR: 79 FR 21636 FR:79 FR 61262	-Removed the blueline tilefish portion from the deep-water complex ACL; -Established separate commercial and recreational ACLs and AMs for blueline tilefish.
Generic Dealer Amendment (2013i)	8/7/2014	PR: 79 FR 81 FR: 79 FR 19490	- Modified permitting and reporting requirements for seafood dealers who first receive fish managed by the SA and Gulf through eight FMPs.
Regulatory Amendment #14 (2014a)	12/8/2014	PR: 79 FR 22936 FR: 79 FR 66316	-Modified the commercial and recreational fishing year for greater amberjack; -Modified the commercial and recreational sector fishing years for black sea bass; -Modified the recreational AM for black sea bass; -Modified the recreational AM for vermilion snapper; -Modify the commercial trip limit for gag.
Regulatory Amendment #21 (2014b)	11/6/2014	PR: 79 FR 44735 FR: 79 FR 60379	-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.
Amendment #29 (2014c)	7/1/2015	NOA: 79 FR 69819 PR: 79 FR 72567 FR: 80 FR 30947	-Updated the ABC control rule to incorporate methodology for determining the ABC of unassessed species; -Adjusted the ABCs for fourteen unassessed snapper-grouper species (see final rule); -Adjusted the ACLs and ACTs for three species complexes and four snapper-grouper species based on revised ABCs; -Established ACLs for unassessed species; -Modified gray triggerfish minimum size limits; -Established a commercial split season and commercial trip limits for gray triggerfish.
Regulatory Amendment #20 (2014d)	8/20/2015	PR: 80 FR 18797 FR: 80 FR 43033	-Adjusted the recreational and commercial ACLs for snowy grouper; -Adjusted the rebuilding strategy; -Modified the commercial trip limit; -Modified recreational bag limit; -Modified the recreational fishing season.
Amendment #32 (2014e)	3/30/2015	PR: 80 FR 3207 FR: 80 FR 16583	-End overfishing of blueline tilefish; -Removed blueline tilefish from the deepwater complex; -Specified AMs, ACLs, recreational ACLs, commercial trip limit, adjust recreational bag limit for blueline tilefish; -Specified ACLs and revised the AMs for the recreational section of the deepwater complex (yellowedge grouper, silk snapper, misty grouper, queen snapper, sand tilefish, black snapper, and blackfin snapper)

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Regulatory Amendment #22 (2015a)	9/11/2015, except for the amendments to §§ 622.190(b) and 622.193(r)(1) which were effective 8/12/2015	PR: 80 FR 31880 FR: 80 FR 48277	-Adjusted ACLs and OY for gag and wreckfish;
Amendment # 33 Dolphin Wahoo Amendment 7 and Snapper Grouper Amendment 33 (2015b)	12/28/2015	NOA:80 FR 55819 PR:80 FR 60601 FR:80 FR 80686	-Allowed dolphin and wahoo fillets to enter the U.S. EEZ after lawful harvest in The Bahamas; -Specified the condition of any dolphin, wahoo, and snapper-grouper fillets; -Described how the recreational bag limit is determined for any fillets; -Prohibited the sale or purchase of any dolphin, wahoo, or snapper-grouper recreationally harvested in The Bahamas; -Specified the required documentation to be onboard any vessels that have these fillets; -Specified transit and stowage provisions for any vessels with fillets.
Amendment #34 Generic Accountability Measures and Dolphin Allocation Amendment (2015c)	2/22/2016	NOA:80 FR 41472 PR:80 FR 58448 FR:81 FR 3731	-Modified AMs for snapper-grouper species (golden tilefish, snowy grouper, gag, red grouper, black grouper, scamp, the shallow-water grouper complex (SASWG: red hind, rock hind, yellowmouth grouper, yellowfin grouper, coney, and graysby), greater amberjack, the jacks complex (lesser amberjack, almaco jack, and banded rudderfish), bar jack, yellowtail snapper, mutton snapper, the snappers complex (cubera snapper, gray snapper, lane snapper, dog snapper, and mahogany snapper), gray triggerfish, wreckfish (recreational sector), Atlantic spadefish, hogfish, red porgy, the porgies complex (jolthead porgy, knobbed porgy, whitebone porgy, scup, and saucereye porgy); -Modified the AM for commercial golden crab fishery; -Adjusted sector allocations for dolphin.
Notice of Control Date	6/15/16	76 FR 66244	-Fishermen entering the federal for-hire recreational sector for the Snapper Grouper fishery after June 15, 2016, will not be assured of future access should a management regime that limits participation in the sector be prepared and implemented.
Amendment #35 (2015d)	6/22/2016	NOA:81 FR 6222 PR:81 FR 11502 FR:81 FR 32249	-Removed black snapper, dog snapper, mahogany snapper, and schoolmaster from the Snapper-Grouper FMP; -Clarified regulations governing the use of Golden Tilefish Longline Endorsements.

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Regulatory Amendment #16 (2016a)	12/29/2016 (closure) 1/30/2017 (gear markings)	NOI: 78 FR 72868 PR: 81 FR 53109 FR: 81 FR 95893	-Revise the area where fishing with black sea bass pots is prohibited from Nov.1-April 30. -Add additional gear marking requirements for black sea bass pot gear.
Regulatory Amendment #25 (2016b)	8/12/2016 except changes to blueline tilefish, effective 7/13/2016.	PR: 81 FR 34944 FR: 81 FR 45245	-Revised commercial and recreational ACL for blueline tilefish; -Revised the recreational bag limit for black sea bass; -Revised the commercial and recreational fishing year for yellowtail snapper.
Amendment #36 (2016d)	7/31/17	NOI: 82 FR 810 PR: 82 FR 5512 FR:82 FR 29772	-Established SMZs to enhance protection for snapper-grouper species in spawning condition including speckled hind and warsaw grouper.
Amendment #37 (2016c)	8/24/17	NOI: 80 FR 45641 NOA: 81 FR 69774 PR: 81 FR 91104 FR:82 FR 34584	-Modified the hogfish fishery management unit; -Specified fishing levels for the two South Atlantic hogfish stocks; -Established a rebuilding plan for the Florida Keys/East Florida stock; -Established/revised management measures for both hogfish stocks in the South Atlantic Region, such as size limits, recreational bag limits, and commercial trip limits.
Red Snapper Emergency Rule (2017a)	Effective 11/2/2017, through 11/31/2017. The recreational red snapper season opened on 11/3/2017, and closed on 11/6/2017; then reopened on 11/10/2017, and closed on 11/13/2017. The commercial red snapper season opened on 11/2/2017.	FR: 82 FR 50839	-Allowed for the limited harvest and possession of red snapper in 2017 by changing the process used to set the ACL, as requested by the Council; -These rules also announced the opening and closing dates of the 2017 recreational fishing season and the opening date for the 2017 commercial fishing season for red snapper

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Golden Tilefish Interim Rule (2017b)	1/2/2018 through 7/1/2018 and 7/2/2018 through 1/3/2019	PR: 82 FR 50101 FR: 83 FR 65 FR EXT: 83 FR 28387	-Reduced the golden tilefish total ACL, the commercial and recreational sector ACLs, and the quotas for the hook-and-line and longline components of the commercial sector.
Amendment #41 (2017c)	2/10/2018	NOA:82 FR 44756 PR:82 FR 49167 FR:83 FR 1305	-Updated the MSY, ABC, ACL, OY, MSST; -Designated spawning months of April through June for regulatory purposes; -Revised management measures for mutton snapper including the minimum size limit (18 inches total length), recreational bag limit (five mutton snapper per person per day within the ten-snapper aggregate), and commercial trip limit (500 pounds whole weight during January through March and July through December; and during the April through June spawning season, of five mutton snapper per person per day, or five mutton snapper per person per trip, whichever is more restrictive).
Amendment #43 (2017d)	7/26/2018	NOI:82 FR 1720 NOA: 83 FR 16282 PR:83 FR 22939 FR:83 FR35428	-Actions addressed overfishing of red snapper by specifying recreational and commercial ACLs beginning in 2018;
Abbreviated Framework Amendment 1: Red Grouper (2017e)	8/27/2018	PR:83 FR 14234 FR:83 FR35435	-Adjust the ACLs for South Atlantic red grouper in response to the results of the latest stock assessment.
Regulatory Amendment #28 (2018a)	1/4/2019	PR: 83 FR 48788 FR: 83 FR 62508	-End overfishing of golden tilefish by reducing the ACL based on the most recent stock assessment.
Abbreviated Framework Amendment 2 (2018b)	Effective 5/9/2019. The black sea bass recreational season notification is effective from 4/9/2019, until 12:01 a.m., local time, 4/1/2020, unless changed by subsequent notification in the Federal Register.	PR:84 FR 4758 FR:84 FR 14021	-Adjust the ACLs for South Atlantic vermilion snapper and black sea bass in response to the results of the latest stock assessments.

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Amendment #42 (2019a)	1/8/2020	NOA:84 FR 27576 PR: 84 FR 48890 FR: 84 FR 67236	-Modified sea turtle release gear and SG framework
Regulatory Amendment #27 (Vision Blueprint Commercial - 2018c)	2/26/2020	PR: 84 FR 55531 FR 85 FR 4588	Modified: -Commercial split seasons (snowy grouper, greater amberjack, red porgy); -Commercial trip limits (blueline tilefish, vermilion snapper); Implemented: -Commercial trip limit for Other Jacks Complex, -Minimum size limit (commercial only) for almaco jack; -Reduced the minimum size limit for gray triggerfish off east FL; -Removed the minimum size (commercial) limit for deep-water snappers (silk, queen, blackfin)
Regulatory Amendment #30 (2018d)	3/9/2020	PR: 84 FR 57840 FR: 85 FR 6825	-Revised the rebuilding schedule for red grouper -Extended the seasonal prohibition on recreational and commercial harvest of red grouper in the EEZ off South Carolina and North Carolina through May; -Established a commercial trip limit for red grouper harvested in the South Atlantic federal waters of 200 lbs gw
Regulatory Amendment #26 (Vision Blueprint Recreational - 2018e)	3/30/2020	PR: 84 FR 57378 FR: 85 FR 11307	-Modified the 20-fish aggregate to limit the harvest of any one species within the aggregate bag limit to 10 fish; -Reduced the minimum size limit for gray triggerfish off east FL (recreational) (12 inches); -Removed the minimum size limit (recreational) for deep-water snappers (silk, queen, blackfin).
Regulatory Amendment #29 (2020a)	7/15/2020	PR: 85 FR 22118 FR: 85 FR 36166	-Modified gear requirements for South Atlantic snapper-grouper species, including requirement modifications to requirements for circle hooks and powerheads.
Abbreviated Framework Amendment #3 (2019b)	8/17/2020	PR: 85 FR 20970 FR: 85 FR 43145	-Increased the total and sector ACLs and recreational ACT for South Atlantic blueline tilefish in response to the results of the latest stock assessments.
Amendment #39 (Generic For-Hire Reporting Amendment) (2017f)	9/1/2020	NOA:83 FR 11164 PR:83 FR 14400 FR:85 FR 10331 Correcting FR: 85 FR 47917	-Weekly electronic reporting for charter vessel operators with a federal for-hire permit; -Reduced the time allowed for headboat operators to complete electronic reports; -Requires location reporting by charter vessels with the same detail currently required for headboat vessels.
Emergency Rule Vermilion snapper and King Mackerel	9/17/2020	ER: 85 FR 57982	-Increased the vermilion snapper commercial trip limit from 1,000 to 1,500 lbs gw; -Increased the king mackerel recreational bag limit from: (1) 3-fish to 4-fish per person in federal waters from the New York/Connecticut/Rhode Island

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.
			boundary to the Georgia/Florida boundary, and (2) 2-fish to 4-fish per person in federal waters from the Georgia/Florida boundary south to the Miami-Dade/Monroe County, Florida, boundary.
Regulatory Amendment #33 (2020b)	11/13/2020	PR: 85 FR 28924 FR: 85 FR 64978	-Removed the requirement that if NMFS projects a red snapper season (commercial or recreational) would be 3 days or less, the respective fishing season will not open for that fishing year. Therefore, red snapper harvest could be open for either commercial or recreational harvest for less than 4 days. For the recreational sector particularly, this measure could allow for a fishing season to occur that otherwise would not be allowed.
Regulatory Amendment #34 (2020c)	4/2/2021	PR: 85 FR 73013 FR: 86 FR 17318	-Established SMZs at artificial reef sites off the coasts of North Carolina and South Carolina.
Amendment #26 (Bycatch Reporting Amendment)	TBD	TBD	-Modify bycatch and discard reporting for commercial and for-hire vessels.
Regulatory Amendment #32	TBD	TBD	-Revise accountability measures for yellowtail snapper to reduce the possibility of in-season closures.
Amendment #44 Yellowtail Snapper	TBD	TBD	-Revise ACls, AMs, allocations, and management measures for yellowtail snapper
Amendment #45 ABC Control Rule	TBD	TBD	-Modify the ABC control rule; -Specify an approach for determining the acceptable risk of overfishing and the probability of rebuilding success for overfished stocks; -Allow phase-in of ABC changes; and -Allow carry-over of unharvested catch.
Recreational Accountability Measures	TBD	TBD	-Modify the recreational AMs for the recreational sector.
Amendment #48 Wreckfish	TBD	TBD	-Modify management of wreckfish.
Amendment #49 Greater amberjack	TBD	TBD	-Revise ACLs, AMs, allocations, and management measures for greater amberjack.
Amendment #51 Snowy grouper	TBD	TBD	-Revise ACLs, AMs, allocations, and management measures for snowy grouper.
Amendment #52 Gag	TBD	TBD	-Revise ACLs, AMs, allocations, and management measures for gag.
Amendment #53 Golden tilefish	TBD	TBD	-Revise ACLs, AMs, allocations, and management measures for golden tilefish.

Appendix J. Allocation Review Trigger Policy

In a letter to the NOAA Assistant Administrator dated July 16, 2019, the South Atlantic Fishery Management Council (Council) responded to NOAA's Fisheries Allocation Review Policy (NMFS Policy Directive 01-119) and the associated Procedural Directive on allocation review triggers (NMFS Procedural Directive 01-119-01). The Policy established the responsibility for the Regional Fishery Management Councils to set allocation review triggers and consider three types of trigger criteria: indicator, public interest, and time. Councils were directed to establish triggers for consideration of allocation reviews by August 2019. The Council's response follows:

The Council has reviewed species allocations on numerous occasions in the past. However, these reviews may not have been formally documented in a fishery management plan amendment if a decision was made not to modify sector allocations. This new policy will ensure all species currently having sector allocations will be reviewed on a regular basis and will formalize the allocation review process so the Council's consideration of allocations will be documented.

The Council reviewed their current sector allocations and began discussions on the Policy and Procedural Directives and criteria for considering fishery allocation reviews at their December 2018 meeting. At their June 2019 meeting, the Council adopted two types of criteria for triggering consideration of an allocation review: indicator and time.

The Council chose several indicator-based criteria as triggers:

- Either sector exceeds its ACL or closes prior to the end of its fishing year three out of five consecutive years,
- Either sector under harvests its ACL or OY by at least 50% three out of five consecutive years,
- After a stock assessment is approved by the SSC and presented to the Council, and
- After the Council reviews a species Fishery Performance Report.

The Council chose a time-based trigger to ensure allocation reviews are regularly considered. Each species will have its sector allocations reviewed not less than every seven years. Table 1 shows by species when the next sector allocation review will be considered by the Council should an indicator-based criterion not be triggered. Regardless of whether consideration of an allocation review is triggered by an indicator or time criterion once it occurs the next one will automatically be scheduled for consideration seven years later. For species which are jointly managed with the Gulf of Mexico Fishery Management Council, the timing for consideration of allocation reviews was coordinated with that council.

A public interest-based criterion was not selected because the Council currently receives substantial and regular comment from the public through scoping and public hearing sessions, general public comment periods held at every Council meeting, the public comment form on the

Council's website, and through other more informal channels. Thus, the Council decided the existing Council process provides sufficient opportunity for public input on allocation.

Table J-1. Next year for allocation reviews (as of 2019) for SAFMC managed species.

Assessed Species	**Review Year**
Black grouper	2026
Black sea bass	2023
Blueline Tilefish	2020
Gag	2022
Golden tilefish	2021
Gray Triggerfish	2023
Greater amberjack	2021
GA-NC Hogfish	2023
FLK/EFL Hogfish	2023
Mutton Snapper	2023
Red grouper	2023
Red porgy	2021
Red snapper	2024
Snowy grouper	2021
Vermilion snapper	2021
Wreckfish	2019
Yellowtail Snapper	2021
Atlantic Group KingMackerel	2021
Atlantic Group Spanish Mackerel	2022
Gulf Group Cobia- FL East Coast Zone	2021
Unassessed Species	
Atlantic Spadefish	2022
Bar Jack	2022
Scamp	2022
Speckled hind*	*
Warsaw grouper*	*
DeepwaterComplex	
Yellowedge Grouper	2024
Silk Snapper	2024
Misty Grouper	2024
Sand Tilefish	2024
Queen Snapper	2024

Blackfin Snapper	2024
Jacks Complex	
Almaco Jack	2025
Banded Rudderfish	2025
Lesser Amberjack	2025
Snappers Complex	
Gray Snapper	2025
Lane Snapper	2025
Cubera Snapper	2025
Grunts Complex	
White Grunt	2024
Sailor's Choice	2024
Tomtate	2024
Margate	2024
Shallow-Water Groupers Complex	
Red Hind	2026
Rock Hind	2026
YellowmouthGrouper	2026
Yellowfin Grouper	2026
Coney	2026
Graysby	2026
Porgy Complex	
Jolthead Porgy	2027
Knobbed Porgy	2027
Saucereye Porgy	2027
Scup	2027
Whitebone Porgy	2027
Dolphin/Wahoo	
Dolphin	2019
Wahoo	2019

*ACL=0 for this species. If ACL>0 in the future, allocations will be reviewed when the ACL is increased.

Appendix K. SEDAR 66 Golden Tilefish Projections

SEDAR 66 Golden Tilefish Projections

Projection results for Tilefish are shown in Figures 36, 37, 38, and 39, and Tables 20, 21, 22, and 23. Among all scenarios considered, the probability that SSBMSY exceeds MSST [$P(>\text{MSST})$] is at least 0.55 in all years of all projections. Thus, under no management prescription considered in the projections thus far is the South Atlantic Tilefish stock predicted to be overfished.

Figure 36. Plots of SSB, *landings, recruits,* F, *and the probability that* SSB > MSST *for projections with fishing mortality rate at fixed* F *that provides* $P^* = 0.50$. *In all panels except the bottom right, expected values (base run) represented by solid lines with solid circles, medians represented by dashed lines with open circles, and uncertainty represented by thin lines corresponding to* 5^{th} *and* 95^{th} *percentiles of replicate projections. Solid horizontal blue lines mark* MSY*-related quantities; dashed horizontal green lines represent corresponding medians. Spawning stock (SSB) is at time of peak spawning. In the bottom right panel, the curve represents the proportion of projection replicates for which SSB exceeds the replicate-specific* MSST.

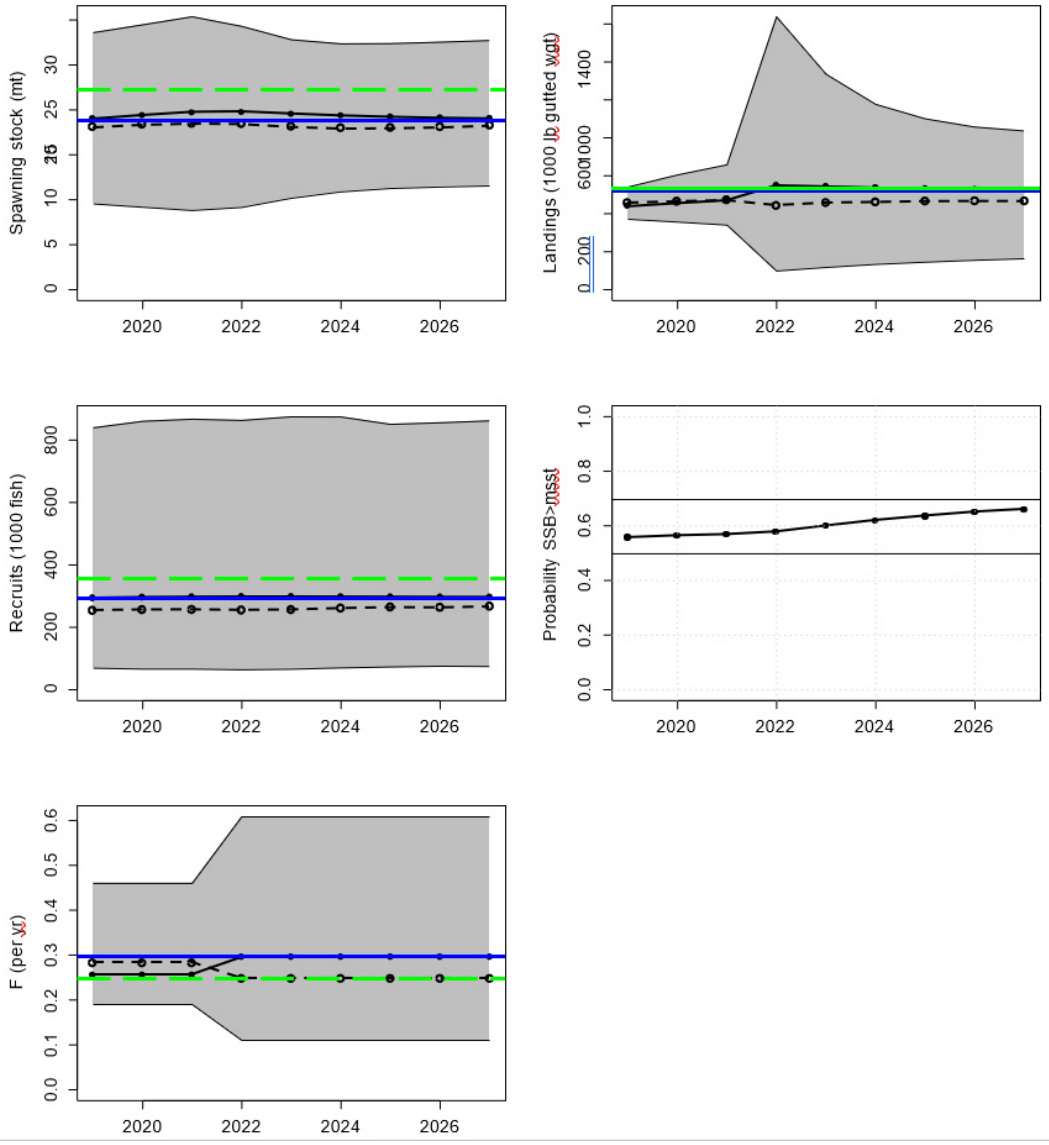

Figure 37. Plots of SSB, *landings, recruits, F , and the probability that* SSB > MSST *for projections with fishing mortality rate fixed at* $F = F_{MSY}$. *In all panels except the bottom right, expected values (base run) represented by solid lines with solid circles, medians represented by dashed lines with open circles, and uncertainty represented by thin lines corresponding to* 5^{th} *and* 95^{th} *percentiles of replicate projections. Solid horizontal blue lines mark* MSY-*related quantities; dashed horizontal green lines represent corresponding medians. Spawning stock (SSB) is at time of peak spawning. In the bottom right panel, the curve represents the proportion of projection replicates for which SSB exceeds the replicate-specific* MSST.

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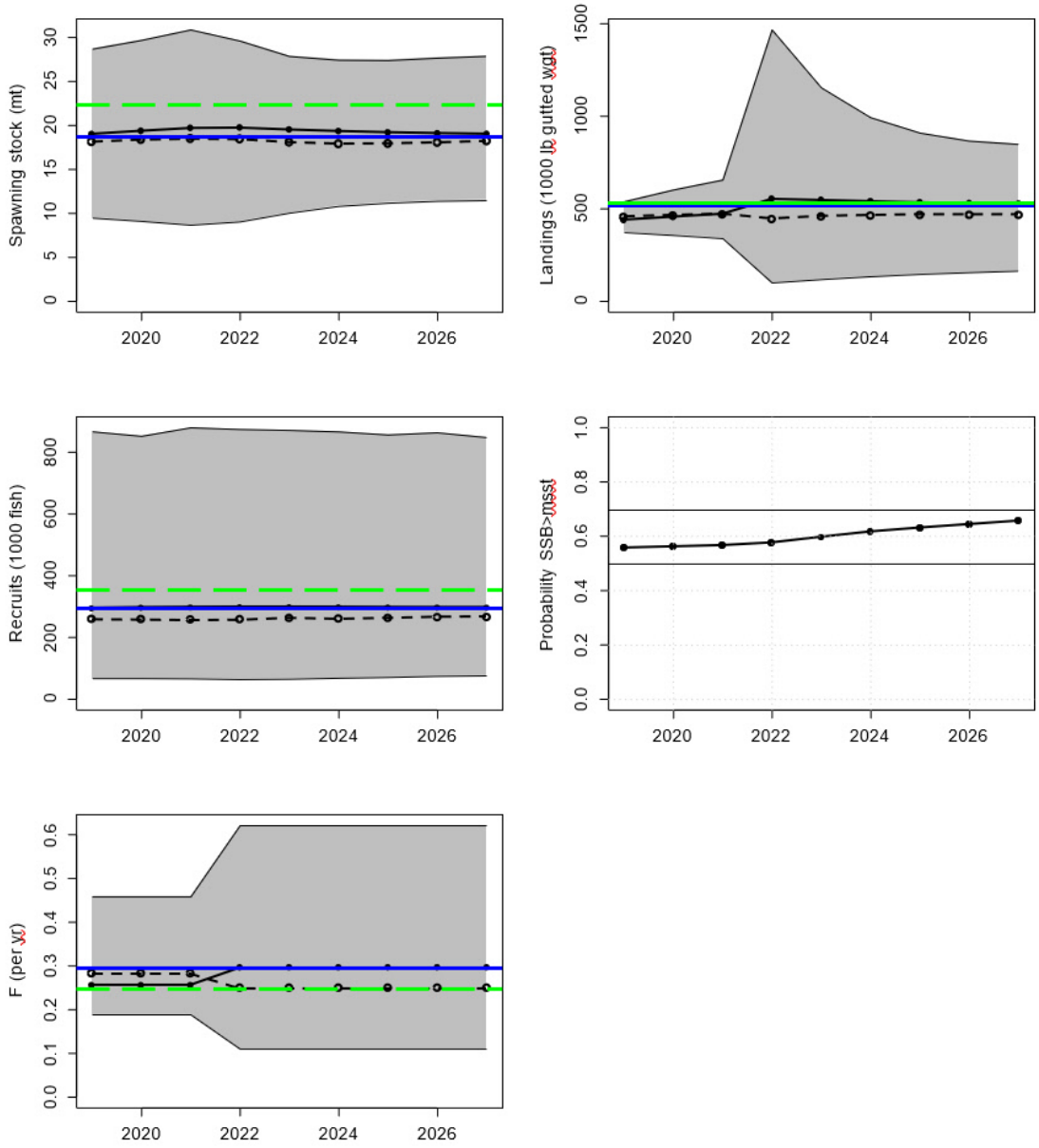

Figure 38. Plots of SSB, *landings, recruits, F, and the probability that* SSB > MSST *for projections with fishing mortality rate at fixed F that provides* $P^* = 0.30$. *In all panels except the bottom right, expected values (base run) represented by solid lines with solid circles, medians represented by dashed lines with open circles, and uncertainty represented by thin lines corresponding to* 5^{th} *and* 95^{th} *percentiles of replicate projections. Solid horizontal blue lines mark* MSY*-related quantities; dashed horizontal green lines represent corresponding medians. Spawning stock (SSB) is at time of peak spawning. In the bottom right panel, the curve represents the proportion of projection replicates for which SSB exceeds the replicate-specific* MSST.

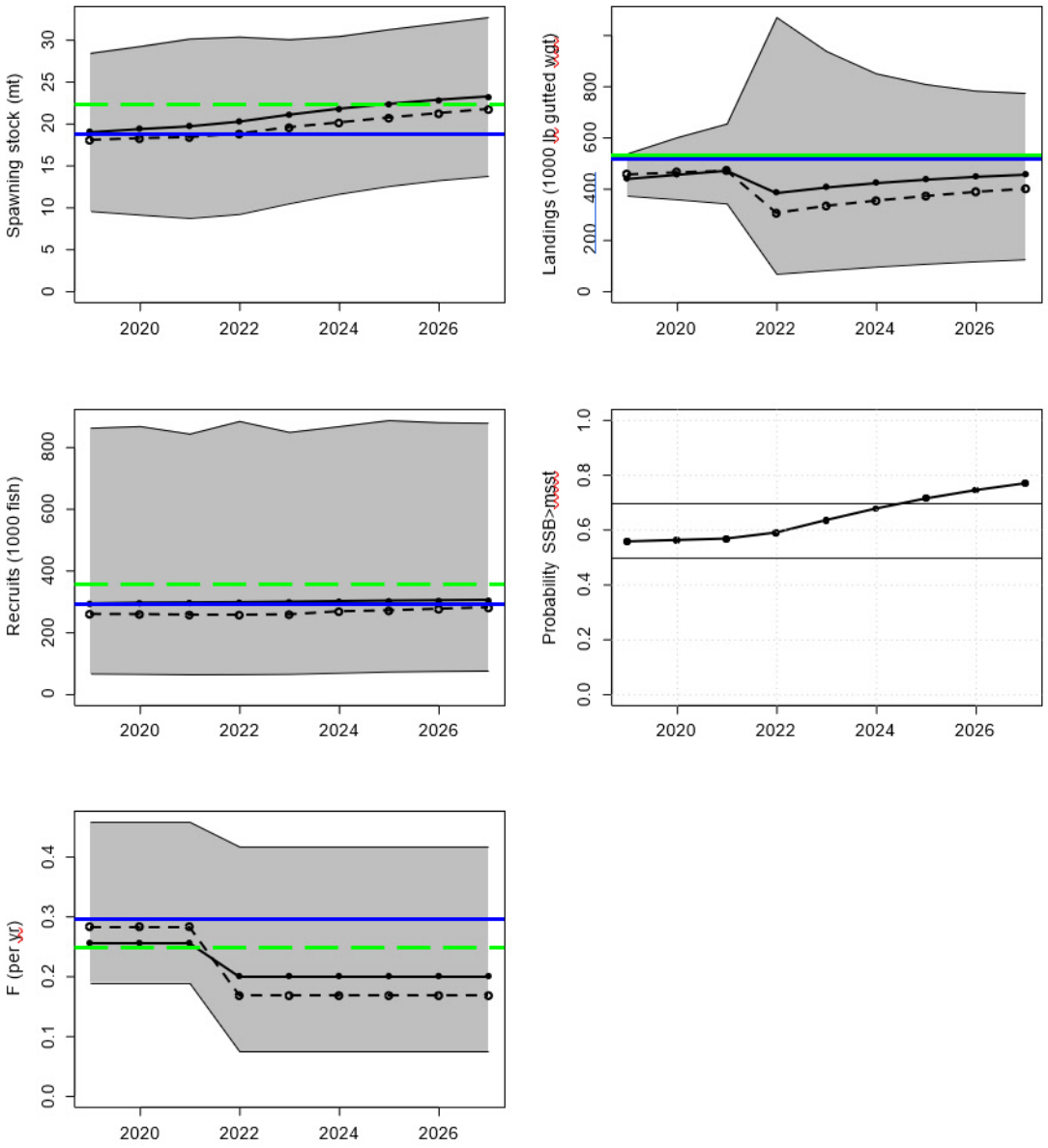

Figure 39. Plots of SSB, *landings, recruits, F , and the probability that* SSB > MSST *for projections with fishing mortality rate fixed at* $F = 75\%F_{MSY}$. *In all panels except the bottom right, expected values (base run) represented by solid lines with solid circles, medians represented by dashed lines with open circles, and uncertainty represented by thin lines corresponding to* 5^{th} *and* 95^{th} *percentiles of replicate projections. Solid horizontal blue lines mark* MSY- *related quantities; dashed horizontal green lines represent corresponding medians. Spawning stock (SSB) is at time of peak spawning. In the bottom right panel, the curve represents the proportion of projection replicates for which SSB exceeds the replicate-specific* MSST.

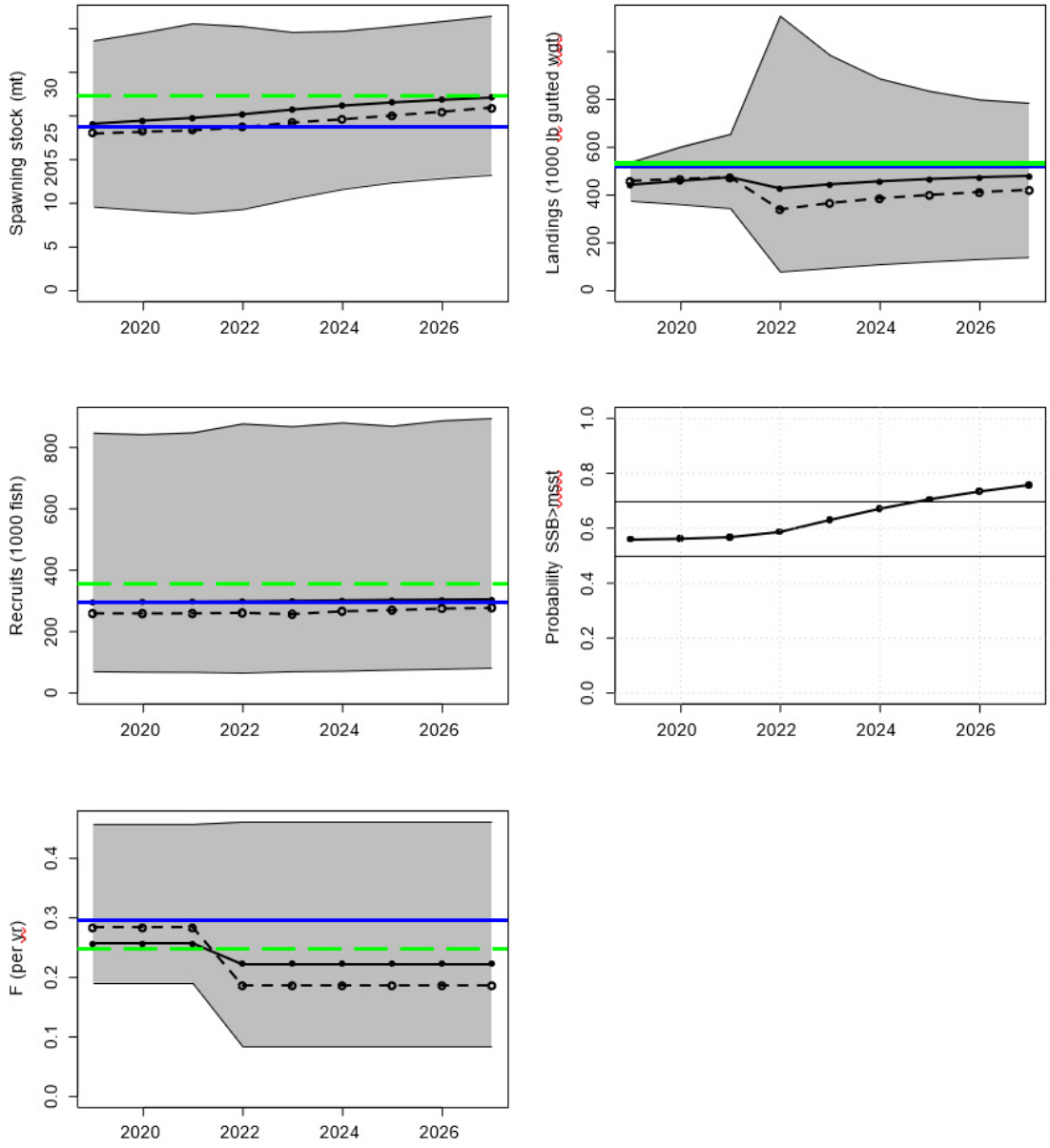

Table 19. Results from sensitivity runs of the Beaufort catch-age model. Current F represented by geometric mean of last three assessment years ($F/F_{MSY} = F_{2016-2018}/F_{MSY}$). MSY is in 1000 lb gutted weight. Stock and rebuild status based on terminal year (SSB/MSST = SSB_{2018}/MSST; SSB/SSB_{MSY} = SSB_{2018}/SSB_{MSY}). h = Beverton-Holt steepness. δ_{status} is the absolute linear distance in status space [(x, y) = (F/F_{MSY}, SSB/MSST)] between sensitivity results and base model results, as an overall metric of sensitivity. See text for full description of sensitivity runs.

Description	F_{MSY}	SSB_{MSY} (*mt*)	B_{MSY} (*mt*)	MSY (1000 lb)	F/F_{MSY}	SSB/MSST	SSB/SSB_{MSY}	*h*	R_0 (1000*fish*)	δ_{status}
Base	0.282	20	2398	542	0.95	1.24	0.93	0.84	299	0.00
S1 set M constant lo	0.195	24	2375	479	1.88	0.73	0.55	0.84	192	1.06
S2 set M constant up	0.498	16	2569	644	0.40	2.10	1.57	0.84	552	1.02
S3 set steep lo	0.201	25	2710	505	1.53	0.86	0.65	0.74	313	0.69
S4 set steep up	0.438	15	2089	582	0.54	1.81	1.35	0.94	286	0.70
S5 set F init 0.5lkmin	0.279	21	2511	564	0.89	1.26	0.95	0.84	311	0.06
S6 set F init lkmin	0.279	22	2610	587	0.83	1.30	0.98	0.84	324	0.13
S7 set w cpue sM lo	0.273	21	2480	559	0.69	1.59	1.19	0.84	310	0.44
S8 set w cpue sM up	0.429	17	2052	466	2.26	0.91	0.68	0.84	249	1.35
S9 rec alt 06to11	0.270	19	2324	520	1.43	0.74	0.55	0.84	288	0.69

Table 20. Projection results with fishing mortality rate fixed at F = FP∗ starting in 2022 and projecting forward to 2027. From 2019 to 2021 the fishing mortality rate was fixed at Fcurrent. R = number of age-1 recruits (in 1000s), F = fishing mortality rate (per year), S = spawning stock (mt), L = landings expressed in numbers (n, in 1000s) or gutted weight (GW, in 1000 lb), P (> MSST)= proportion of stochastic projection replicates with SSB ≥ MSST. The extension b indicates expected values (deterministic) from the base run; the extension med indicates median values from the stochastic projections.

Year	R_b	R_{med}	F_b	F_{med}	S_b (mt)	S_{med} (mt)	L_b (n)	L_{med} (n)	L_b (GW)	L_{med} (GW)	P(> MSST)
2019	294	255	0.26	0.28	19	18	54	58	440	457	0.558
2020	297	257	0.26	0.28	19	18	57	59	457	465	0.565
2021	297	258	0.26	0.28	20	18	58	60	472	472	0.569
2022	298	256	0.30	0.25	20	18	68	57	552	442	0.579
2023	298	258	0.30	0.25	20	18	67	58	546	457	0.600
2024	298	262	0.30	0.25	19	18	67	58	539	461	0.620
2025	297	266	0.30	0.25	19	18	66	59	533	465	0.636
2026	297	265	0.30	0.25	19	18	65	59	529	467	0.650
2027	297	268	0.30	0.25	19	18	65	59	526	466	0.660

Table 21.Projection results with fishing mortality rate fixed at $F = F_{MSY}$ starting in 2022 and projecting forward to 2027. From 2019 to 2021 the fishing mortality rate was fixed at $F_{current}$. R = number of age-1 recruits (in 1000s), F = fishing mortality rate (per year), S = spawning stock (mt), L = landings expressed in numbers (n, in 1000s) or gutted weight (GW, in 1000 lb*), P* (> MSST)= *proportion of stochastic projection replicates with* SSB ≥ MSST. *The extension* b *indicates expected values (deterministic) from the base run; the extension* med *indicates median values from the stochastic projections.*

Year	R_b	R_{med}	F_b	F_{med}	S_b (mt)	S_{med} (mt)	L_b (n)	L_{med} (n)	L_b (GW)	L_{med} (GW)	P(> MSST)
2019	294	260	0.26	0.28	19	18	54	58	440	457	0.558
2020	297	259	0.26	0.28	19	18	57	59	457	465	0.562
2021	297	258	0.26	0.28	20	18	58	60	472	471	0.567
2022	298	258	0.30	0.25	20	18	68	57	552	445	0.576
2023	298	263	0.30	0.25	20	18	67	58	546	459	0.597
2024	298	261	0.30	0.25	19	18	67	59	539	464	0.617
2025	297	263	0.30	0.25	19	18	66	59	533	468	0.631
2026	297	265	0.30	0.25	19	18	65	59	529	468	0.644
2027	297	266	0.30	0.25	19	18	65	59	526	468	0.657

Table 22. Projection results with fishing mortality rate fixed at F = FP∗ starting in 2022 and projecting forward to 2027. From 2019 to 2021 the fishing mortality rate was fixed at Fcurrent. R = number of age-1 recruits (in 1000s), F = fishing mortality rate (per year), S = spawning stock (mt), L = landings expressed in numbers (n, in 1000s) or gutted weight (GW, in 1000 lb), P (> MSST)= proportion of stochastic projection replicates with SSB ≥ MSST. The extension b indicates expected values (deterministic) from the base run; the extension med indicates median values from the stochastic projections.

Year	R_b	R_{med}	F_b	F_{med}	S_b (mt)	S_{med} (mt)	L_b (n)	L_{med} (n)	L_b (GW)	L_{med} (GW)	P(> MSST)
2019	294	259	0.26	0.28	19	18	54	58	440	457	0.557
2020	297	259	0.26	0.28	19	18	57	59	457	465	0.562
2021	297	257	0.26	0.28	20	18	58	60	472	471	0.568
2022	298	257	0.20	0.17	20	19	47	39	386	307	0.590
2023	300	258	0.20	0.17	21	20	50	42	407	335	0.636
2024	301	268	0.20	0.17	22	20	51	44	424	355	0.678
2025	303	271	0.20	0.17	22	21	53	46	438	373	0.716
2026	304	276	0.20	0.17	23	21	54	47	449	389	0.746
2027	305	281	0.20	0.17	23	22	54	48	457	401	0.772

Table 23. Projection results with fishing mortality rate fixed at $F = 0.75F_{\mathrm{MSY}}$ *starting in 2022 and projecting forward to 2027. From 2019 to 2021 the fishing mortality rate was fixed at* F_{current}. *R = number of age-1 recruits (in 1000s), F = fishing mortality rate (per year), S = spawning stock (mt), L = landings expressed in numbers (n, in 1000s) or gutted weight (GW, in 1000* lb*), P* (> MSST)= *proportion of stochastic projection replicates with* SSB ≥ MSST. *The extension* b *indicates expected values (deterministic) from the base run; the extension* med *indicates median values from the stochastic projections.*

Year	R_b	R_{med}	F_b	F_{med}	S_b (mt)	S_{med} (mt)	L_b (n)	L_{med} (n)	L_b (GW)	L_{med} (GW)	P(> MSST)
2019	294	259	0.26	0.28	19	18	54	58	440	457	0.559
2020	297	259	0.26	0.28	19	18	57	59	457	465	0.563
2021	297	259	0.26	0.28	20	18	58	61	472	472	0.568
2022	298	261	0.22	0.19	20	19	52	43	425	340	0.587
2023	299	257	0.22	0.19	21	19	54	46	442	366	0.630
2024	301	266	0.22	0.19	21	20	55	48	455	385	0.671
2025	302	269	0.22	0.19	22	20	56	49	465	399	0.705
2026	302	275	0.22	0.19	22	20	57	51	472	411	0.734
2027	303	276	0.22	0.19	22	21	57	52	478	420	0.757