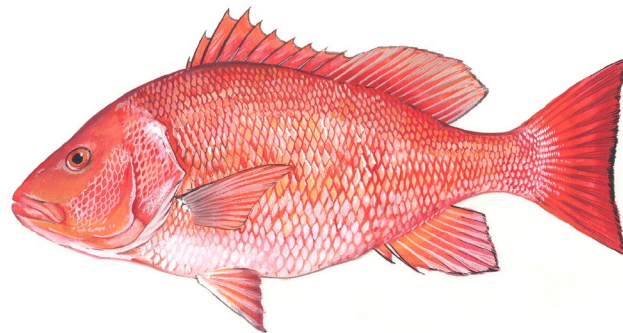


Interim Measures to Temporarily Reduce Overfishing of Red Snapper in the South Atlantic Region for 2024



Environmental Assessment and Regulatory Impact Review

May 17 2024



Red Snapper Interim Measures to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region

Proposed action:

Temporarily reduce the South Atlantic red snapper total and sector annual catch limits for 2024.

Responsible Agencies and Contact Persons

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This EA applies CEQ's NEPA regulations currently in effect. See 50 C.F.R. § 1506.13.

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Chapter 1. Introduction

1.1. What action is being proposed?

The National Marine Fisheries Service (NMFS) is proposing to reduce overfishing of red snapper by temporarily reducing the South Atlantic red snapper total and sector annual catch limits (ACL) for 2024. NMFS is also proposing to modify 50 C.F.R. § 622.183(b)(5)(ii) to allow the NMFS Southeast Regional Office (SERO) Regional Administrator (RA) the authority to modify the opening and closing dates of the recreational fishing season if a small craft advisory, or worse weather, exists in the South Atlantic exclusive economic zone (EEZ) to reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions¹.

1.2. Who is proposing the action and where is the project located?

NMFS, which is an agency within the National Oceanic and Atmospheric Administration and the Department of Commerce, is proposing the action. Management of the federal snapper-grouper fishery located off the southeastern United States from the Virginia/North Carolina border south to the Florida Keys (South Atlantic Region) in the 3-200 nautical miles U.S. EEZ is conducted under the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP; SAFMC 1983), pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Red snapper is one of fifty-five species managed under the Snapper-Grouper FMP.

1.3. Why is NMFS considering action (Purpose and Need Statement)?

Purpose: The *purpose* of this action is to temporarily reduce the total and sector annual catch limits for red snapper in the South Atlantic Region.

Need: The *need* for this action is to reduce overfishing of the South Atlantic red snapper stock in the 2024 fishing year, consistent with the Magnuson-Stevens Fishery Conservation and Management Act and its National Standards. The South Atlantic Fishery Management Council was notified overfishing of red snapper was occurring in July 2021, but has failed to take action

¹ NMFS wanted to provide the SERO RA greater flexibility to modify the recreational season dates in case of adverse weather that is classified by the National Weather Service (NWS) of at least as inclement as a Small Craft Advisory. For the South Atlantic, the NWS defines a Small Craft Advisory as sustained winds of 20 to 33 knots (10 to 17 meters/second), and/or forecast seas of 7 feet (2.1 meters) or greater that are expected for more than 2 hours (<https://weather.gov/marine/cwd>). NMFS has determined that for the 2024 recreational fishing season, this interim measure may help mitigate derby-style (race-to-fish) conditions in adverse weather and in recognition of Magnuson-Stevens Conservation and Management Act National Standard 10 to promote safety at sea.

to end overfishing as required by the Magnuson-Stevens Fishery Conservation and Management Act.

Background

The most recent stock assessment for red snapper in the South Atlantic Region, Southeast Data, Assessment and Review (SEDAR) 73 (2021), included data through 2019 and was conducted using the Beaufort Assessment Model, a statistical catch-at age model. The results of SEDAR 73 (2021) indicated that South Atlantic red snapper are overfished, and experiencing overfishing, and the overfishing is being primarily driven by high numbers of dead discards by the recreational sector (Table 1.3.1). The assessment provided information that can be used to update the status determination criteria and various reference points for red snapper, including the overfishing limit (OFL), acceptable biological catch (ABC), and ACLs, and to establish an annual optimum yield (OY).

The South Atlantic Fishery Management Council’s (Council) Scientific and Statistical Committee (SSC) reviewed results of the assessment at their April and July 2021 meetings and recommended new stock status criteria (Table 1.3.1), and OFL and ABC levels (Table 1.3.2) to the Council at the Council’s September 2021 meeting. The current OFL is 56,000 fish, the current ABC is 53,000 fish, and the current total ACL is 42,510 fish.

Table 1.3.1. South Atlantic red snapper stock status criteria recommendations based on the results of SEDAR 73 (2021), as recommended by the Council’s SSC to the Council. Deterministic projections were used to recommend future catch levels. SSB=spawning stock biomass; MSY = Maximum sustainable yield (MSY); SSB_{MSY} = spawning stock biomass at MSY; MFMT = maximum fishing mortality threshold; F_{MSY} = the fishing mortality rate (F) that, if applied constantly, would result in MSY; MSST = minimum stock size threshold.

Criteria	Deterministic	Probabilistic
Overfished evaluation (SSB/SSB _{MSY})	0.44	0.49
Overfishing evaluation	2.20	1.95
MFMT (F _{MSY})	0.21	0.21
SSB _{MSY} (mt mature female biomass)	635,426.4	594,630.2
MSST (mt mature female biomass)	476,569.8	445,972.6
MSY (1000 lbs.)	404.7	407.78

Table 1.3.2. The OFL and ABC levels recommended for South Atlantic red snapper by the SSC, based on projections from SEDAR 73 (2021) and relative to the current total ACL of 42,510 fish. The SSC recommended an ABC equal to the OFL, so values in the table represent the ABC and OFL landings and dead discards in pounds whole weight (lbs ww) and numbers of fish.

Year	ABC/OFL Landings (lbs ww)	ABC/OFL Dead Discards (lbs ww)	ABC/OFL Landings (numbers of fish)	ABC/OFL Dead Discards (numbers of fish)	Percent Reduction in ABC/OFL Landings (numbers of fish) from Current Total ACL
2023	327,000	1,036,000	28,000	202,000	34.13%
2024	368,000	1,076,000	31,000	207,000	27.08%
2025	408,000	1,104,000	33,000	210,000	22.37%
2026	446,000	1,122,000	35,000	211,000	17.67%
2027+	480,000	1,133,000	36,000	212,000	15.31%

The Council received notification from NMFS (via letter dated July 23, 2021) of the status of the red snapper stock in the South Atlantic. Following notification that a stock is undergoing overfishing and is overfished, the Magnuson-Stevens Act requires development of an FMP amendment with actions that end overfishing immediately and rebuild the affected stock. Because a rebuilding plan is already in place for red snapper and SEDAR 73 (2021) shows that progress towards rebuilding is being made, the existing rebuilding plan does not need to be revised but action is still required to end overfishing. Red snapper overfishing is being largely driven by dead discards in the recreational sector, both during the directed red snapper fishing season and during the closed red snapper season while fishers are targeting snapper-grouper species that co-occur with red snapper (Shertzer et al. 2024). Fishery managers can lower the mortality of red snapper and other snapper-grouper stocks by implementing regulations that reduce directed catch, improve the survival of released fish, or by lowering fishing effort directed towards red snapper and other snapper-grouper stocks.

In response to the latest South Atlantic red snapper stock assessment (SEDAR 73, 2021) and the SSC’s recommended fishing levels, the Council developed Regulatory Amendment 35 to the Snapper-Grouper FMP (Regulatory Amendment 35) and considered reducing the red snapper ACLs and changing gear requirements intended to reduce dead discards throughout the snapper-grouper fishery. In March 2023, the Council approved Regulatory Amendment 35 for review by the Secretary of Commerce (Secretary), but the Council did not transmit the amendment to NMFS. In December 2023, the Council rescinded its March 2023 action to approve Regulatory Amendment 35 for Secretarial Review. At the December 2023 meeting, the Council’s Snapper-Grouper Committee also discussed potential actions and information that could be considered in the Council's response to the overfished and experiencing overfishing stock status of red snapper from SEDAR 73, and requested staff to compile information on various topics for discussion at the March 2024 Council Meeting. During the March 2024 Council meeting, the Snapper-Grouper Committee had further discussions on red snapper and requested additional information.

Currently, there are no requests from the Council to change the regulations in time to affect the 2024 red snapper fishing season, or to reduce overfishing beginning in 2024. Therefore, to

implement an action to reduce the overfishing of red snapper in time for the 2024 season, which begins in July,² NMFS is only considering reductions in the catch limits for this interim measure.

Rationale for Choice of Preferred Alternative

The alternatives are outlined in Chapter 2 of this document. The Council has failed to act to meet the Magnuson-Stevens Act requirements to end overfishing. The Council has also failed to meet the Magnuson-Stevens Act requirements to develop catch limits for red snapper that do not exceed its SSC's ABC recommendations. Therefore, NMFS has determined that an interim rule to reduce overfishing is necessary for 2024 while more permanent measures to end overfishing are being considered, including a Secretarial amendment under section 304(c)(1)(A) of the Magnuson-Stevens Act. To reduce overfishing, the preferred alternative would temporarily lower the total, commercial, and recreational ACLs in 2024. The sector ACLs are equal to the ABC recommendation of 31,000 fish as divided by the current allocations of 28.07% commercial and 71.93% recreational. The commercial ACL in numbers of fish was converted to pounds using the average weight caught by the commercial sector. NMFS has determined that **Preferred Alternative 4** best meets the purpose and need to reduce overfishing of the South Atlantic red snapper stock in the 2024 fishing year, consistent with the Magnuson-Stevens Act and its National Standards, while minimizing adverse effects to the commercial and recreational sectors. **Preferred Alternative 4** would result in shorter commercial and recreational seasons than previous years. **Preferred Alternative 4** would decrease net economic benefits by \$913,274 in the 2024 fishing year (2022 \$) compared to **Alternative 1 (No action)**. However, NMFS has determined that **Preferred Alternative 4** would result in positive effects (biological benefits) to the red snapper stock by reducing landings and reducing overfishing in 2024. The temporary ACLs are expected to minimize future adverse social and economic effects by potentially decreasing further reductions in the allowable harvest levels required to end overfishing of red snapper through future action.

Ability for the NMFS SERO RA to Modify the Start and End Dates of the Recreational Season

Each year, NMFS determines the fishing season length for the recreational sector based on catch rates in previous years. Reducing the length of the recreational season could affect the safety of fishermen at sea concerns associated with a very short, derby-style recreational fishing season. Members of the Council, U.S. Coast Guard (USCG) representatives, and recreational fishermen have all expressed concerns for stakeholders' safety-at-sea during short, derby-style fishing seasons. In September 2022, the USCG expressed concern to NMFS that, due to the severely limited fishing window of two days in July 2022, they saw a massive influx of boaters on the water, regardless of weather or condition of the vessel. They shared detailed information on the

² Each year, NMFS will announce the season opening dates in the *Federal Register*. 50 C.F.R. [§ 622.183\(b\)\(5\)\(i\)](#). The commercial season will begin on the second Monday in July, unless otherwise specified. The recreational season, which consists of weekends only (Fridays, Saturdays, and Sundays) begins on the second Friday in July, unless otherwise specified. NMFS will project the length of the recreational fishing season and announce the recreational fishing season end date in the *Federal Register*. See 50 C.F.R. [§ 622.193\(y\)\(1\)](#), for establishing the end date of the commercial fishing season.

cases and USCG reactions, including information on multiple distress calls. NMFS then relayed this information to the Council in December 2022.

National Standard 10 (NS 10) states that “Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea” 16 U.S.C. § 1851(a)(10). The guidelines for NS 10 state “Fisheries where time constraints for harvesting are a significant factor and with no flexibility for weather, often called ‘derby’ fisheries, can create serious safety problems. To participate fully in such a fishery, fishermen may fish in bad weather and overload their vessel with catch and/or gear. Where these conditions exist, FMPs should attempt to mitigate these effects and avoid them in new management regimes...” 50 C.F.R. § 600.355(c)(3). Therefore, shortening the length of a recreational season, for example from two days to one day, could exacerbate safety at sea issues and result in more fishermen going out in adverse weather conditions. However, setting the recreational season to zero days under **Alternatives 2, 3, and 5**, would eliminate fishermen from going out in adverse conditions to fish for red snapper, but it would result in foregone fishing opportunities.

To allow fishing opportunities, **Preferred Alternative 4** would allow a one day recreational fishing season, and NMFS will announce in advance the date for that season. The NS 10 Guidelines recognize that “The safety of a vessel and the people aboard is ultimately the responsibility of the master of that vessel. Each master makes many decisions about vessel maintenance and loading and about the capabilities of the vessel and crew to operate safely in a variety of weather and sea conditions.” 50 C.F.R. § 600.355(b)(3). The current regulations state that a recreational season opens on the second Friday in July, unless otherwise specified. In 2024, that one day recreational season would be on Friday July 12. To mitigate the derby-style conditions in the case of adverse weather, NMFS has determined that a change to the 50 C.F.R. § 622.183(b)(5)(ii) is necessary in 2024 for the recreational red snapper season. This change would provide additional flexibility to the SERO RA to change the date of that one day recreational season for safety at sea concerns.

Currently, if the RA determines tropical storm or hurricane conditions exist, or are projected to exist, in the South Atlantic, during a commercial or recreational fishing season, the RA may modify the opening and closing dates of the fishing season by filing a notification to that effect with the Office of the Federal Register, and announcing via NOAA Weather Radio and a Fishery Bulletin any change in the dates of the red snapper commercial or recreational fishing season. For 2024, NMFS is retaining this authority for the commercial season as specified in 50 C.F.R. § 622.183(b)(5)(ii). However, NMFS is modifying this authority for the recreational season in consideration of the one day season. The revised regulations would specify in 2024 for the recreational season in the case of adverse weather that is classified by the NWS of at least as inclement as a Small Craft Advisory exists in the South Atlantic EEZ, or is projected to exist, the RA may modify the opening and closing dates of the recreational fishing season by filing a notification to that effect with the Office of the Federal Register, and announcing via NOAA Weather Radio and a Fishery Bulletin any change in the dates of the red snapper recreational fishing season. This change will reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions. NMFS has determined that this modification is not necessary for the commercial season as the recreational sector is more susceptible to potential adverse effects from adverse weather conditions since the recreational

season will be one day while the commercial season is predicted to be 35 days. Therefore, the commercial sector will have more opportunities to adjust fishing practices to avoid adverse conditions during a red snapper season compared to the recreational sector.

1.4. What are the projected recreational and commercial season lengths?

NMFS has projected the recreational and commercial season lengths for 2024 based on the current ACLs and reductions in the current ACLs for the various ACL alternatives under Action 1 (Tables 1.4.1 - Tables 1.4.2). The details of the recreational and commercial season length analyses are contained in Appendix C.

Table 1.4.1. Daily catch rate (fish/day) and the projected number of days the recreational red snapper season would be open during 2024 for the various recreational ACL alternatives considered under Action 1. These results were generated from four different landings options (2021, 2022, preliminary 2023, and an average of 2021 through preliminary 2023).

Landings	Daily Catch Rate	Alternative 1 (No Action): 29,656 Fish*	Alternatives 2 & 3: 0 Fish*	Preferred Alternative 4: 21,167 Fish*	Alternative 5: 21,167 Fish** (If 3 days or less, then =0)
2021 Landings	13,023 Fish/Day	2 Days	0 Days	1 Day	0 Days
2022 Landings	9,738 Fish/Day	3 Days	0 Days	2 Days	0 Days
Preliminary 2023 Landings	16,787 Fish/Day	1 Day	0 Days	1 Days	0 Days
Average 2021, 2022, and Preliminary 2023 Landings	13,183 Fish/Day	2 Days	0 Days	1 Day	0 Days

*The projected number of days the recreational red snapper season would be open are shown in complete whole days, and not partial days, to avoid exceeding the ACL. While the average landings projects partial days, NMFS has determined that it is not reasonable to round up a partial day into a whole day because it is likely the ACL for that alternative would be exceeded. Table C-6 in Appendix C shows the projected number of whole and partial days the recreational season could be open, before rounding down to the nearest whole day. NMFS determined that the average of 2021, 2022 and preliminary 2023 landings scenario is the most appropriate to use to determine the 2024 fishing season for each alternative under these interim measures.

**Alternatives 4 & 5 are identical total and sector ACLs, however, Alternative 5 includes the condition that if the projected recreational fishing season is determined by NMFS to be three days or less then the recreational fishing season will not open for that fishing year. Therefore, Alternative 5 would have a recreational season of zero days in 2024.

Table 1.4.2. Projected closure dates and total number of days the commercial red snapper season would be open during 2024 for the various commercial ACL alternatives considered under Action 1.³ The closure dates were determined by assuming the commercial sector opens on July 8, 2024.

Alternative	Commercial ACL (lbs ww)	Projected 2024 Closure Date	Total number of days open
Alternative 1: (No Action)	124,815	2-Sep	56
Alternative 2	0	NO SEASON	0
Alternative 3	85,268	12-Aug	35
Preferred Alternative 4	85,268	12-Aug	35
Alternative 5	85,268	12-Aug	35

Source: SEFSC Commercial ACL file (September 18, 2023).

1.5. What are the statutory guidelines for interim measures to FMPs?

Section 305(c) of the Magnuson-Stevens Act (16 U.S.C. § 1855(c)) specifies that the Secretary may promulgate interim measures if the Secretary finds that overfishing exists and interim measures are needed to reduce overfishing for any fishery. Any interim measure that changes an existing FMP or amendment shall be treated as an amendment to such plan for the period in which such regulation is in effect. As outlined in this section of the Magnuson-Stevens Act, interim measures to reduce overfishing are effective for 180 days with the option to extend those measures for another 186 days.

1.6. What is the management and stock assessment history for red snapper?

More information on management for all species in the snapper-grouper fishery management unit may be found at <https://safmc.net/fishery-management-plans/snapper-grouper/>. Stock assessment information can be found at www.Sedarweb.org and in Section 3.2.1. Below are amendments to the Snapper-Grouper FMP and stock assessments addressing red snapper within the South Atlantic Region.

Snapper-Grouper FMP (1983)

The Snapper-Grouper 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

³ Commercial landings data from 2019 to 2023 were used to determine the daily catch rate for the commercial sector; data for 2023 are considered preliminary and are appropriate for use. Landings data from the three most recent years are generally used to project closure dates, but a five-year average was used to ensure that variation in monthly landings was captured in the predicted landings values. Due to potential changes to stock size over time and the limited historical data from the month of July due to the short season each year, the recreational analysis only uses July 2021, 2022, and preliminary 2023 data as a proxy for future landings.

total length (TL) minimum size limit for vermilion snapper; and included additional harvest and gear limitations.

Amendment 4 (1991)

The amendment prohibited the use of various gear, including fish traps, the use of bottom longlines for wreckfish, and powerheads in special management zones off South Carolina; established bag limits and minimum size limits for several species (two fish bag limit for red snapper and 20-inch TL minimum size limit); required permits (commercial and for-hire) and specified data collection regulations; and required that all snapper-grouper species possessed in the South Atlantic Region must have heads and fins intact through landing.

Amendment 11 (1998)

The amendment made definitions of maximum sustainable yield MSY, OY, overfishing, and overfished consistent with National Standard Guidelines. Amendment 11 also identified and defined fishing communities, addressed bycatch management measures, and defined the red snapper F_{MSY} proxy as $F_{30\%SPR}$.

SEDAR 15 (2008, Revised 2009)

The red snapper stock in the South Atlantic was first assessed through the SEDAR process in 2008 and revised in 2009. SEDAR 15 determined the stock to be overfished and undergoing overfishing. In response to SEDAR 15, the Council implemented a moratorium on the harvest of red snapper through Amendment 17A to the Snapper-Grouper FMP and requested an interim measure to reduce overfishing.

Interim Rule for Red Snapper (2009)

The Council received notification from NMFS in a letter (dated July 8, 2008) that the South Atlantic red snapper stock was undergoing overfishing and was overfished. In March 2009, the Council requested that NMFS establish interim measures to reduce overfishing and fishing pressure on the red snapper stock. Interim measures to establish a closure of the commercial and recreational fisheries for red snapper in the South Atlantic as requested by the Council became effective on January 4, 2010. The interim rule was effective until June 2, 2010, but was extended for an additional 186 days since the Council was developing long-term management measures in Amendment 17A to the Snapper-Grouper FMP to end overfishing of red snapper and rebuild the stock.

Amendment 17A (2010)

The amendment specified a 35-year rebuilding schedule with the rebuilding time period ending in 2044, and included a harvest prohibition for red snapper by setting an ACL of zero, and an area closure for all snapper-grouper species. The area closure was 4,827 square miles and extended from southern Georgia to northern Florida where harvest and possession of all snapper-grouper species would be prohibited (except when fishing with black sea bass pots or spearfishing gear for species other than red snapper). The red snapper prohibition was effective on January 3, 2011; however, NMFS delayed the effective date of the area closure until June 1, 2011, via an emergency rule, to allow time to review the results of a new red snapper stock assessment (SEDAR 24 2010). Amendment 17A also required the use of non-stainless steel circle hooks when fishing for snapper-grouper species with hook-and-line gear and natural baits

in the South Atlantic Region north of 28 degrees North latitude and specified a fishery-independent monitoring program for red snapper.

SEDAR 24 (2010)

Another stock assessment was conducted in 2010, which found the stock to be overfished and undergoing overfishing; however, the rate of overfishing found in SEDAR 24 was less than the rate of overfishing found in the previous stock assessment. Based on the results from SEDAR 24, evidence of decreased effort in the recreational sector, and recommendations from their SSC, the Council determined that the snapper-grouper area closure approved in Amendment 17A, in addition to the harvest prohibition, was more conservative than what was necessary to end overfishing of red snapper. In 2013, a method to annually evaluate whether a limited red snapper season could occur, based on red snapper removals in the previous year relative to the ABC, was developed and implemented through Amendment 28 to the Snapper-Grouper FMP (SAFMC 2013a).

Comprehensive ACL Amendment (Amendment 25) (2011)

The amendment established sector allocations for many snapper-grouper species, including red snapper, using an allocation formula based on historic and recent average landings. The commercial allocation for red snapper was set at 28.07% and the recreational allocation was set at 71.93%.

Regulatory Amendment 10 (2011)

The framework amendment eliminated the snapper-grouper area closure to reduce discard mortality of red snapper that was approved in Amendment 17A.

Emergency Rule (2012)

The rule established red snapper seasons and ACLs for the commercial and recreational sectors in the South Atlantic Region in 2012.

Amendment 28 (2013)

The amendment set the commercial and recreational ACLs and seasons to allow limited harvest of red snapper in 2013. In addition, the amendment established a process to determine whether limited commercial and recreational fishing seasons in the South Atlantic Region could occur during a given fishing year if total removals (landings plus dead discards) were less than the ABC in the previous fishing year. Additionally, the Council decided that if limited fishing seasons can occur, the commercial fishing season should begin on the second Monday in July, and the recreational fishing season, which would consist of weekends only (Fridays, Saturdays, and Sundays) on the second Friday in July. The Council also decided that if the projected commercial or recreational fishing season is determined by NMFS to be 3 days or less, then the commercial or recreational fishing season would not open for that fishing year.

Regulatory Amendment 21 (2014)

The framework amendment changed the MSST definition for eight snapper-grouper species including red snapper from $MSST = [(1-M) \text{ or } 0.5 \text{ whichever is greater}] * B_{MSY}$ to $0.75 * B_{MSY}$.

SEDAR 41 (2017)

The South Atlantic red snapper stock was assessed again through SEDAR 41 (2017) and found to still be overfished and undergoing overfishing.

Emergency Rule (2017)

NMFS allowed limited commercial and recreational harvest of red snapper in 2017 by a temporary rule through emergency action pursuant to the Magnuson-Stevens Act as a result of new scientific information regarding improvements in the red snapper stock. The rule changed the process used to set the ACL, and 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.

Amendment 43 (2017)

The amendment allowed a limited harvest of red snapper by implementing a total ACL of 42,510 fish, based on the landings observed during the limited red snapper season in 2014. That ACL was less than the Council's SSC total ABC recommendation of 53,000 red snapper. Under the total ACL specified in Amendment 43, and based upon the Council's sector allocation (28.07% commercial and 71.93% recreational), the commercial ACL equals 124,815 lbs ww and the recreational ACL equals 29,656 fish. Through Amendment 43 and the final rule, the length of the recreational fishing season serves as the accountability measure for the recreational sector. The length of the recreational red snapper season is projected based on catch rate estimates from previous years, and the projected fishing season end-date would be announced each year in the *Federal Register* before the start of the season. Additionally, the amendment provided notice of the red snapper commercial season opening date and the opening and closing dates for the recreational season in the South Atlantic for the 2018 fishing year.

Regulatory Amendment 33 (2020)

The framework amendment 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. As the requirement was removed, red snapper harvest could be open for either recreational or commercial harvest for fewer than four days.

SEDAR 73 (2021)

The South Atlantic red snapper stock was assessed again through SEDAR 73 (2021) and found that the stock is continuing to be overfished and undergoing overfishing.

Chapter 2. Proposed Action and Alternatives

2.1. Action 1. Reduce the total annual catch limit and sector annual catch limits for South Atlantic red snapper in 2024

Alternative 1 (No Action). The total annual catch limit for South Atlantic red snapper is 42,510 fish. The commercial sector annual catch limit is 124,815 pounds whole weight. The recreational sector annual catch limit is 29,656 fish. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the commercial and recreational fishing seasons.

Alternative 2. Reduce the South Atlantic red snapper total and sector annual catch limits to 0 fish for 2024. Red snapper may not be harvested or possessed in or from the South Atlantic exclusive economic zone in 2024 by a private recreational vessel or a vessel for which a valid Federal commercial or charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, regardless of where the fish have been harvested.

Alternative 3. Reduce the total annual catch limit for South Atlantic red snapper to 85,268 pounds whole weight for 2024. Reduce the red snapper recreational sector annual catch limit to 0 fish for 2024. Red snapper may not be harvested or possessed in or from the South Atlantic exclusive economic zone in 2024 on board a private recreational vessel or a vessel for which a valid Federal charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, regardless of where the fish have been harvested. Reduce the red snapper commercial sector annual catch limit to 85,268 pounds whole weight for 2024. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the 2024 commercial fishing season on board a vessel for which a valid Federal commercial permit for South Atlantic snapper-grouper has been issued, regardless of where the fish have been harvested.

Preferred Alternative 4. Reduce the total annual catch limit for South Atlantic red snapper to 31,000 fish for 2024. Reduce the red snapper recreational sector annual catch limit to 21,167 fish for 2024. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the 2024 recreational fishing season on board a private recreational vessel or a vessel for which a valid Federal charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, regardless of where the fish have been harvested. Reduce the red snapper commercial sector annual catch limit to 85,268 pounds whole weight for 2024. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the 2024 commercial fishing season on board a vessel for which a valid Federal commercial permit for South Atlantic snapper-grouper has been issued, regardless of where the fish has been harvested.

Alternative 5. Reduce the total annual catch limit for South Atlantic red snapper to 31,000 fish for 2024. Reduce the red snapper recreational sector annual catch limit to 21,167 fish for 2024. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the 2024 recreational fishing season on board a private recreational vessel or a vessel for which a valid Federal charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, regardless of where the fish has been harvested. If the projected recreational fishing season is determined by the National Marine Fisheries Service to be **three days or less**, then the recreational fishing season will not open for that fishing year. Reduce the red snapper commercial sector annual catch limit to 85,268 pounds whole weight for 2024. Red snapper may only be harvested or possessed in or from the South Atlantic exclusive economic zone during the 2024 commercial fishing season on board a vessel for which a valid Federal commercial permit for South Atlantic snapper-grouper has been issued, regardless of where the fish have been harvested.

Discussion

Alternative 1 (No Action) represents the current total annual catch limit (ACL) and sector ACLs for red snapper implemented by Amendment 43 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP) (SAFMC 2017). Under **Alternative 1 (No Action)**, the total ACL is 42,510 fish, which was based on the landings observed during the limited red snapper season in 2014. Of that total ACL, the commercial ACL is 124,815 pounds (lbs) whole weight (ww) and the recreational ACL is 29,656 fish, based on the 28.07% commercial and 71.93% recreational sector allocation ratio implemented by the Comprehensive ACL Amendment to the Snapper-Grouper FMP (SAFMC 2011). None of the alternatives in this action revises the existing sector allocation ratio.

Red snapper are undergoing overfishing and are overfished, but the stock is rebuilding. Overfishing is being largely driven by dead discards in the recreational sector, both during the directed red snapper fishing season and during the closed red snapper season while fishers are targeting snapper-grouper species that co-occur with red snapper (Shertzer et al. 2024). Overall, the commercial sector only represents ~5% of the total fishing mortality for red snapper. A majority of the red snapper fishing mortality from the commercial sector (~79%) is from directed harvest rather than from dead discards, while most of the fishing mortality from the recreational sector (87%) is from the discarding of red snapper (Table 2.1). Overfishing of red snapper can be addressed by implementing regulations that reduce directed catch, improve the survival of released fish, or by lowering fishing effort directed towards red snapper and other snapper-grouper stocks.

Table 2.1. Estimated time series of fully selected fishing mortality rates (F) for commercial handlines (F.cH.L), headboat (F.HB.L), recreational (F.GR.L) landings (L) and discards (D). Also shown is Full F, the maximum F at age summed across fleets, which may not equal the sum of fully selected F's because of dome-shaped selectivities (Southeast Data, Assessment, and Review; SEDAR 73 2021).

Year	F.cH.L	F.HB.L	F.GR.L	F.cH.D	F.HB.D	F.GR.D	Full F
2015	0.001	0.001	0.008	0.015	0.01	0.328	0.356
2016	0.001	0	0	0.014	0.011	0.527	0.553
2017	0.016	0.003	0.049	0.007	0.006	0.288	0.328
2018	0.02	0.005	0.06	0.004	0.007	0.599	0.646
2019	0.019	0.005	0.067	0.004	0.007	0.388	0.435

Alternative 2 would set the total and sector ACLs to zero for the 2024 fishing year, which would prohibit all harvest of red snapper for both sectors. These ACL levels were previously considered by the South Atlantic Fishery Management Council (Council) in Regulatory Amendment 35 to the Snapper-Grouper FMP (Regulatory Amendment 35). Implementing total and sector ACLs of zero in 2024 would result in the greatest reduction in fishing mortality of all the alternatives, but also have the greatest negative social and economic effects to both sectors.

Similar to **Alternative 2**, **Alternative 3** would also prohibit recreational harvest of red snapper in 2024, while allowing reduced commercial harvest compared to **Alternative 1 (No Action)**. Under **Alternative 3**, the total and commercial ACL would be reduced to the 2024 commercial ACL level previously considered by the Council in Regulatory Amendment 35. The total and commercial ACLs of 85,268 lbs ww in **Alternative 3** represent the commercial sector's allocation of 28.07% of the acceptable biological catch (ABC) of landed fish recommended by the Council's Scientific and Statistical Committee (SSC) for 2024 based on the results of the latest stock assessment (SEDAR 73, 2021) (See Table 1.3.2). **Alternative 3** would result in the second greatest reduction in fishing mortality of all the alternatives considered, but would reduce social and economic impacts to the commercial sector, which represents only ~5% of the total fishing mortality for red snapper.

The total ACL of 31,000 fish in **Alternatives 4 (Preferred)** and **5** is based on the 2024 ACL level considered by the Council in Regulatory Amendment 35 (Table 1.3.2). That total ACL is equal to the SSC's recommended ABC for 2024, based upon the results of SEDAR 73. The commercial ACL for both **Alternatives 4 (Preferred)** and **5** were calculated from the total ACL based on the commercial sector allocation ratio of 28.07%. The recreational ACL in **Alternatives 4 (Preferred)** and **5** was calculated from the total ACL based on the recreational sector allocation ratio of 71.93 percent. Under **Preferred Alternative 4**, the recreational season would open for one day, whereas a recreational season would not take place under **Alternative 5** because the recreational season is projected to be three days or less (Table 1.4.1). **Alternative 5**, would result in a comparable reduction in fishing mortality as **Alternative 3**, while **Preferred Alternative 4** would result in the smallest reduction in fishing mortality because it reduces directed recreational harvest the least of **Alternatives 2-5**. The reduction in fishing mortality for **Preferred Alternative 4** is nearly 3-times less than the reduction in fishing mortality associated with **Alternatives 3** and **5** because directed recreational harvest would occur under **Preferred Alternative 4**.

2.1.1. Comparison of Alternatives:

Alternative 1 (No Action) would not reduce overfishing of red snapper. Potential adverse biological impacts to red snapper from overfishing (fishing mortality too high) include a decrease in the average age and size structure, decline in recruitment, and reduced stock resilience to environmental perturbations. Over the long term, prohibiting or further limiting the directed harvest of red snapper in 2024 would help improve the age structure of the population by lowering the fishing mortality. Overall, **Alternatives 2** through **Alternative 5** are equal to or below the SSC's recommended ABC levels for 2024 and would support the current rebuilding plan. **Alternative 1 (No Action)** would allow the greatest amount of harvest of the action alternatives considered and result in the least biological benefit to the red snapper stock.

In general, ACLs that allow fewer fish to be landed can result in decreased net economic benefits. The revised ACLs being considered for **Alternatives 2** through **5** would be constraining on harvest, and are projected to reduce landings of red snapper for both the commercial and recreational sectors. **Alternative 2** would prohibit harvest and retention of red snapper for both the commercial and recreational sectors. As such, a reduction in net economic benefits would be expected from **Alternative 2**. **Alternative 1 (No Action)** would specify a higher ACL than **Alternatives 2** through **5** and thus the highest potential net economic benefits, but this alternative does not reduce or end overfishing as required by the Magnuson-Stevens Fishery Conservation and Management Act. In comparison to **Alternative 1 (No Action)**, **Alternative 2** would decrease net economic benefits by \$3,224,090 in the 2024 fishing year (2022 \$). In comparison to **Alternative 1 (No Action)**, **Alternative 3** would decrease net economic benefits by \$2,637,446 in the 2024 fishing year (2022 \$). In comparison to **Alternative 1 (No Action)**, **Preferred Alternative 4** would decrease net economic benefits by \$913,274 in the 2024 fishing year (2022 \$). In comparison to **Alternative 1 (No Action)**, **Alternative 5** would decrease net economic benefits by \$2,637,446 in the 2024 fishing year (2022 \$).

Closing or reducing the harvest of any stock for a fishing season could negatively impact the commercial, for-hire, and private recreational sectors and result in direct and indirect social and economic effects in the current season. However, restrictions on harvest contribute to sustainable management goals, and are expected to be beneficial to fishermen and communities in the long term. Negative economic and social effects on private recreational fishermen and commercial and for-hire businesses that target red snapper are expected. The absence of a fishing season for red snapper in past years was highly controversial with negative effects on private recreational fishermen, for-hire businesses, and commercial businesses, especially when compared to the benefits to fishermen during the allowed open seasons. The absence of a season for the recreational sector, but not the commercial sector, is likely to be controversial and result in an increased negative perception of management by the recreational sector. However, commercial and recreational fishing for red snapper has been heavily restricted due to the stocks' overfished status. As a result, commercial and for-hire fishermen have likely adjusted some operational aspects of their businesses. Additionally, private recreational fishermen have likely adjusted their targeting behavior to rely on alternative species.

An additional concern with the short recreational season under **Alternative 1 (No Action)** and **Preferred Alternative 4** is safety at sea. Stakeholders have expressed frustration with crowded

boat ramps and reefs during the limited recreational red snapper seasons, making conditions potentially hazardous for boaters. Additionally, shorter seasons may result in anglers choosing to fish in dangerous conditions.

A recreational closure for red snapper under **Alternatives 2, 3 and 5** would likely contribute to safer conditions at sea for recreational fishermen during 2024, but forgone fishing opportunities for harvesting red snapper. Compared to **Alternative 1 (No Action)**, reducing the total and sector ACLs for red snapper under **Alternatives 2 through 5** would not have substantial effects on the administrative environment. **Alternatives 2 through 5** would require development and dissemination of outreach and education materials for fishery participants and law enforcement and an in-season announcement of the revised seasons for both sectors. Due to the derby style fishing and safety-at-sea concerns, there would be positive administrative impacts because the burden on law enforcement would decrease when the recreational sector is closed under **Alternatives 2, 3, and 5**. Additionally, there would be reduced costs for monitoring the short, recreational fishing seasons, as specialized surveys (such as the Recreational Effort, Catch and Biological Sampling survey done by the Florida Fish and Wildlife Conservation Commission, each year), would not be required.

To reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions, the National Marine Fisheries Service (NMFS) is proposing changes to 50 C.F.R. § 622.183(b)(5). This change would allow the NMFS Southeast Regional Office Regional Administrator (RA) to modify the opening and closing dates of the one day recreational fishing season if the RA determines that weather conditions as adverse as at least a small craft advisory exists in the South Atlantic exclusive economic zone, or is projected to exist. This proposed action may help minimize the adverse effects to fishermen's safety from a short recreational season.

Chapter 3. Affected Environment

This chapter describes the affected environment in the proposed project area. The affected environment is thoroughly described in both Regulatory Amendment 35 and Amendment 53 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP) (SAFMC 2023d). Further descriptions of the habitat, biological and ecological, and administrative environments are herein incorporated by reference.

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 Snapper-Grouper FMP is included in Volume II of the Fishery Ecosystem Plan (FEP; SAFMC 2009) and the FEP II 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 are presented in the [SAFMC User Guide](#). 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 potential impacts this action may have on EFH are discussed in Chapter 4 of this document.

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 document.

3.2.1. Red snapper, *Lutjanus campechanus*

Life History

The red snapper is found from North Carolina to the Florida Keys and throughout the Gulf of Mexico to the Yucatan Peninsula (Robins and Ray 1986), in depths from 10 to 190 m (33-623 ft). Adults usually occur over rocky bottoms. Juveniles inhabit shallow waters and are common over sandy or muddy bottom habitat (Allen 1985).

Juvenile (Age 0) red snapper are rarely encountered in the U.S. South Atlantic. SEAMAP's fishery-independent trawling survey collected three in 1999, two in 2000, seven in 2013, and

four in 2014 in nearshore (<30 ft deep) habitat. A headboat fisherman landed one age-0 red snapper during the 2012 mini-season. One age-0 fish was landed in the commercial sector in 1980. Fishermen have reported observing juvenile red snapper on artificial reefs in shallow water. Estimates of juvenile red snapper mortality have been developed in the Gulf of Mexico; however, little information is available for the U.S. South Atlantic (Southeast Data, Assessment, and Review (SEDAR) 41 2017).

The maximum size reported for this species is 100 cm (40 in) total length (TL) (Allen 1985; Robins and Ray 1986) and 22.8 kg (50 lbs) (Allen 1985). For samples collected from North Carolina to eastern Florida, maximum reported age is 45 years (White and Palmer 2004). The most recent maximum observed age for red snapper is 51 years. This fish was a 904 mm (36 in) TL female, and was caught in 2003 at 67 meters depth off Florida by a charter boat fisherman (SEDAR 41 2017).

In the U.S. South Atlantic, recent analyses (SEDAR 41 2017) estimate that 50% of female red snapper are mature at 1.3 years old and 325 mm (12.8 in) TL. Fifty percent of male red snapper are mature at 166 mm (6.5 in) TL (SEDAR 41 2017). Grimes (1987) found that the spawning season of this species varies with location, but in most cases occurs nearly year round. Farmer et al. (2017 and references therein) report spawning activity in the South Atlantic occurring from May through October peaking in June through September. According to SEDAR 41 (2017) spawning along the Atlantic coast of the southeastern U.S. generally occurs from April through October and peaks during June through August based on the presence of females with spawning indicators (i.e., the occurrence of hydrated oocytes and/or postovulatory follicles). Red snapper eat fishes, shrimps, crabs, worms, cephalopods, and some planktonic items (Szedlmayer and Lee 2004).

Stock Status

The red snapper stock in the South Atlantic was assessed through the SEDAR process in 2007-2008, and revised in 2009. That assessment applied a statistical catch-age model using data through 2006 (SEDAR 15 2008, Revised 2009). The assessment found that overfishing had been occurring since the 1960s and the red snapper stock was overfished. Although quantitative results varied, the qualitative results of overfishing a depleted stock were consistent across all catch-age model configurations examined during and after the assessment process (approximately 40 sensitivity runs), as well as with an alternative model formulation (surplus-production model).

In 2010, a benchmark assessment using the Beaufort Assessment Model with data through 2009 was completed (SEDAR 24 2010). The assessment concluded that the red snapper stock was overfished and overfishing was occurring. Similar to SEDAR 15 (2009), more than 40 sensitivities were run, all of which resulted in the same status determinations.

A benchmark assessment was completed in 2016 (SEDAR 41 2017) with data through 2014. Although the SEDAR Review Panel concluded that assessment results represent the best scientific information available, the Panel identified several areas of uncertainty including the composition and magnitude of recreational discards, the stock-recruitment relationship, potential changes in cost per unit effort catchability, and the selectivities for the different fishery fleets. The Council's Scientific and Statistical Committee (SSC) reviewed the assessment and provided fishing level recommendations at their May 2016 meeting based on F30%SPR as a proxy for

FMSY. The base assessment run suggested that, in the terminal year of 2014, the stock remained overfished. The SSC did not have confidence in the terminal year fishing mortality estimates; however, they recommended that the assessment results suggested overfishing was likely occurring in the terminal years of the assessment (2012-2014) although the degree to which overfishing was occurring at that time could not be reliably quantified from the assessment results (see May 2016 Final SSC report).

The most recent stock assessment for South Atlantic red snapper, SEDAR 73 (2021) with data through 2019, determined the stock to be overfished and undergoing overfishing. However, SEDAR 73 (2021) indicated that the red snapper stock has shown above average recruitment and substantial progress toward rebuilding due to high recruitment and by reducing mortality. Similar to SEDAR 41 (2017), SEDAR 73 (2021) also indicated that the primary driver of overfishing is recreational discards. The Council's SSC reviewed results of the assessment at their April and July 2021 meetings, and recommended a new overfishing limit (OFL) and acceptable biological catch (ABC). The Council received notification from the National Marine Fisheries Service (NMFS), via letter dated July 23, 2021, of the status of the red snapper stock in the South Atlantic. The SSC's recommendations were presented to the Council at the September 2021 meeting. Following notification that a stock is undergoing overfishing and is overfished, the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires the Council to develop an FMP amendment with actions that end overfishing immediately and rebuild the affected stock. Since a rebuilding plan is already in place and SEDAR 73 (2021) shows that adequate progress towards rebuilding is being made, the rebuilding plan does not have to be revised but actions must be taken to end overfishing.

Landings, discards, and biomass

Visit <https://www.fisheries.noaa.gov/southeast/about-us/south-atlantic-red-snapper> for more details on the commercial and recreational seasons for South Atlantic red snapper since 2017.

Commercial landings and discards

Commercial landings of South Atlantic red snapper are monitored in pounds whole weight (lbs ww) (Table 3.2.1.1). The majority of red snapper is commercially landed in east Florida and Georgia.⁴ During 2015 and 2016, total removals exceeded the ABC, so the ACL was set to zero. Since 2017, with 2018 as an exception, the commercial ACL has been met in about two months or less. During 2018, 2021, and 2023, the commercial sector was closed in-season as the commercial ACL was predicted to be met, but was reopened later in the season to reach the ACL. From 2018 through 2022, the commercial sector of the South Atlantic snapper-grouper fishery had red snapper listed as the third most commonly discarded species (Table D-2).

⁴ Georgia landings are confidential so they were added to the east Florida landings.

Table 3.2.1.1. Total and state commercial landings (lbs ww) of South Atlantic red snapper from 2017 through (preliminary) 2023 and percentage of the commercial ACL landed each year. Years with in-season closures due to approaching or exceeding the commercial ACL are indicated with the closure date and the total number of days the commercial sector was open.

Year	East FL and GA*	NC	SC	Total landings	ACL	ACL %	In-season closure/re-openings	Number of days open
2017	75,491	9,803	3,980	89,274	124,815	71.5	n/a	60
2018	106,769	11,628	9,756	128,153	124,815	102.7	11/7/2018; reopened 12/5 to 12/15/2018	114
2019	108,513	10,074	7,142	125,729	124,815	100.7	8/30/2019	54
2020	115,880	12,307	6,294	134,480	124,815	107.7	9/5/2020	54
2021	103,696	16,178	8,413	128,287	124,815	102.8	9/14/2021; reopened 11/2 to 11/6/2018	68
2022	100,367	15,145	8,832	124,344	124,815	99.9	8/31/2022	51
Preliminary 2023	97,445	20,504	6,859	124,808	124,815	99.9	8/18/2023; reopened on 10/6 to 10/10/2023	43

Source: SERO Commercial ACL dataset provided from the Southeast Fisheries Science Center on September 18, 2023. However, preliminary 2023 landings were provided from the Southeast Fisheries Science Center on December 26, 2023.

Recreational landings and discards

Recreational landings of South Atlantic red snapper have been monitored in numbers of fish since 2017 (Table 3.2.1.2). The majority of recreational red snapper is landed in east Florida. The length of the red snapper recreational season has declined from 9 days in 2017, to 6 days in 2018, 5 days in 2019, 4 days in 2020, 3 days in 2021, and 2 days in 2022 and 2023 as a result of the recreational ACL being projected to be reached sooner in each year. Even with the decrease in the number of open days each year, recreational landings of South Atlantic red snapper have exceeded the recreational ACL since 2018, except in 2022.

Table 3.2.1.2. Total and state recreational landings (numbers of fish) of South Atlantic red snapper from 2017 through (preliminary) 2023 and percentage of the recreational ACL landed each year. The table also provides the corresponding percentage of recreational ACL landed each year.

Year	Georgia	East Florida	North Carolina	South Carolina	Total landings	ACL	ACL %	Number of Days open
2017	84	13,193	194	1,950	15,421	0	NA	9
2018	23,087	37,367	472	223	61,149	29,656	206.2	6
2019	15,564	44,113	150	15,276	75,103	29,656	253.2	5
2020	14,646	36,363	1,640	23,640	76,289	29,656	257.2	4
2021	6,807	36,053	7,805	332	50,997	29,656	172	3
2022	255	19,062	48	110	19,475	29,656	65.7	2
Preliminary 2023	2,680	29,439	850	605	33,574	29,656	113.2	2

Source: SERO recreational ACL file provided from the Southeast Fisheries Science Center on December 20, 2023 combined with individual state red snapper survey data provided in January of 2024.

Figure 3.2.1.1 shows a steep decline in estimated recreational landings since 2010, with a significant increase in estimated discards after 2013. The vast majority of recreational red snapper discards occur off Florida (Appendix D, Table D-6) during July and August, (Wave 4) (Appendix D, Table D-7).

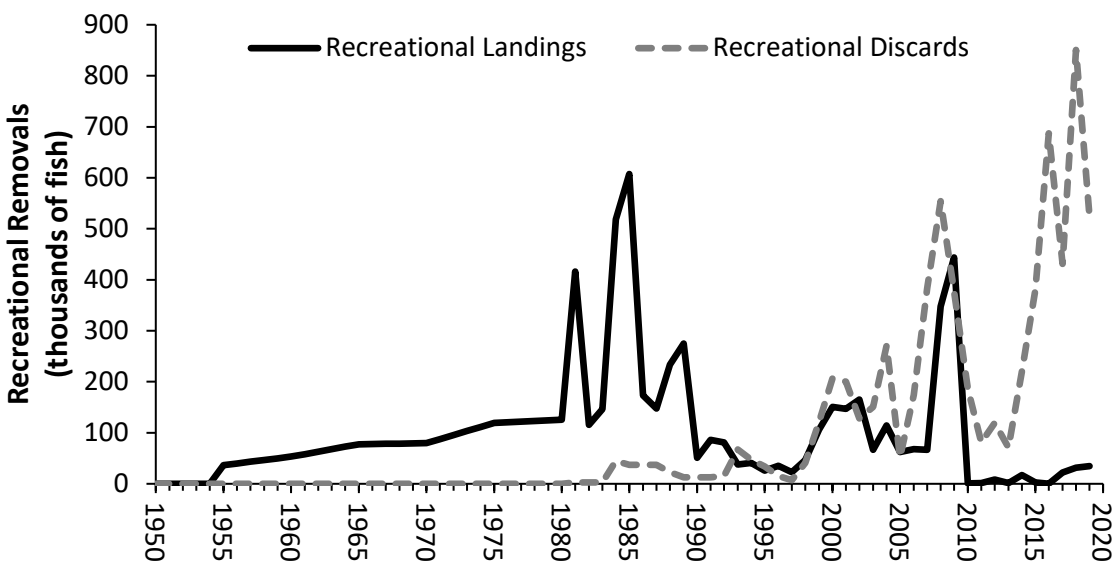


Figure 3.2.1.1. Red snapper recreational landings (black solid) and estimated dead discards (gray dashed) (numbers of fish) from SEDAR 73 (2021) by year from 1950 through 2019.

Biomass

SEDAR 73 (2021) showed an even age distribution with a general decline in estimated total and spawning biomass until the early-1990s. Since the 1990s, there is a relatively stable or increasing pattern of biomass (Figure 3.2.1.2), with a fairly substantial increase in the biomass

beginning around 2010. The terminal year (2019) estimates in SEDAR 73 are at levels not seen since around 1980, but with a younger age structure.

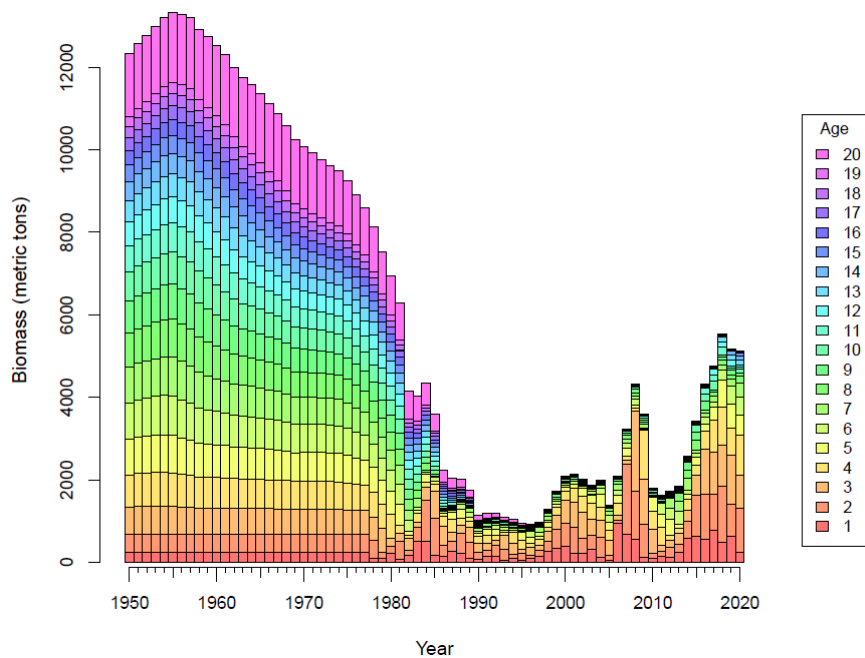


Figure 3.2.1.2. Estimated biomass and age distribution of South Atlantic red snapper at age at start of year from SEDAR 73 (2021).

3.2.2. Other Species Affected / Bycatch

These interim measures indirectly affect other species in the Snapper-Grouper FMU that are caught while fishing for red snapper. For summary information on other snapper-grouper species that may be affected by this action, refer to Chapter 3 in Amendment 53 to the Snapper-Grouper FMP (SAFMC 2023d).

These interim measures are not expected to result in increased bycatch of other fish species. Both sectors likely target a wide range of snapper-grouper species during each trip. This results in a varied amount and type of bycatch of species. The implications of bycatch on the red snapper stock and the snapper-grouper fishery are discussed in Chapter 4 and Appendix D (Bycatch Practicability Analysis).

NMFS also 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 (Gulf). There are 91 stocks of marine mammals managed within the Southeast region plus the addition of the stocks such as North Atlantic right whales, 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 Fisheries⁵ classifies U.S. commercial fisheries into three categories based on the number of incidental mortality or serious injury they cause to marine mammals. For summary information on the protected species that may be adversely affected by the snapper-grouper fishery and how they are affected refer to Section 3.2.5 in [Vision Blueprint Commercial Regulatory Amendment 27 to the Snapper-Grouper FMP](#) (SAFMC 2019c). The potential impacts this action may have on protected species are discussed in Chapter 4 of this document.

3.3. Economic Environment

3.3.1. Commercial Sector

Permits

For a person aboard a vessel to be eligible to harvest and sell any of the snapper-grouper species in or from the South Atlantic exclusive economic zone (EEZ), a commercial vessel permit for South Atlantic snapper-grouper must have been issued to the vessel and must be on board the vessel. The commercial vessel permits for South Atlantic snapper-grouper are limited access permits. After such a permit expires, it can be renewed or transferred (with restrictions) up to one year after the date of expiration. As shown in Table 3.3.1.1, the number of these permits that were valid at any point in a given year decreased steadily from 2016 through 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. Accessed 10/17/22.

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 red snapper in each year from 2018 through 2022, and their revenue from other species. Vessel participation in the South Atlantic commercial red snapper sector varied over this time, however, in 2022 vessel participation decreased by 13%, relative to 2018. Total landings of red snapper also declined during this time by 9%. Landings of other species caught on red snapper trips declined by 53% in 2022 relative to 2018. Landings of other species not caught on red snapper trips, and landings from Gulf trips also declined by 33% and 63%, respectively, during this period red snapper accounted for approximately 3% of total landings by commercial vessels harvesting South Atlantic red snapper.

⁵ <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-protection-act-list-fisheries/>

Table 3.3.1.2. Number of vessels, trips, and landings (lb gw) by year for South Atlantic (SATL) red snapper.

Year	Number of Vessels	Statistic	Red Snapper Landings	Other species landings jointly caught w/ Red Snapper	Other SATL Landings	Gulf Landings	Total Landings
2018	201	Max	7,345	24,767	160,156	50,928	162,736
		Mean	556	3,517	14,414	1,540	20,027
		Total	111,787	706,877	2,897,134	309,573	4,025,371
2019	195	Max	3,903	17,314	185,601	58,660	185,802
		Mean	540	1,944	15,549	945	18,978
		Total	105,378	379,106	3,031,984	184,234	3,700,702
2020	209	Max	4,265	13,945	189,739	49,945	191,114
		Mean	543	1,970	13,822	821	17,156
		Total	113,388	411,761	2,888,800	171,553	3,585,501
2021	197	Max	4,588	17,968	139,728	45,020	141,691
		Mean	544	1,876	11,586	783	14,789
		Total	107,218	369,474	2,282,376	154,277	2,913,345
2022	174	Max	7,003	16,883	119,586	33,979	124,616
		Mean	586	1,893	11,214	654	14,347
		Total	101,967	329,345	1,951,319	113,800	2,496,430

Source: SEFSC-Social Science Research Group (SSRG) Socioeconomic Panel (Jul23 version)

Table 3.3.1.3. Number of vessels and ex-vessel revenues by year (2022\$) for South Atlantic red snapper.

Year	Number of Vessels	Statistic	Red Snapper Revenue	Other species revenue jointly caught w/ Red Snapper	Other SATL Revenue	Gulf Revenue	Total Gross Revenue
2018	305	Max	\$49,573	\$103,663	\$319,110	\$261,109	\$380,842
		Mean	\$3,659	\$14,207	\$51,390	\$4,920	\$74,176
		Total	\$735,370	\$2,855,698	\$10,329,333	\$988,937	\$14,909,339
2019	296	Max	\$26,589	\$74,880	\$319,296	\$319,189	\$375,197
		Mean	\$3,650	\$8,282	\$54,879	\$3,178	\$69,989
		Total	\$711,685	\$1,615,018	\$10,701,334	\$619,738	\$13,647,775
2020	297	Max	\$27,491	\$63,636	\$312,916	\$265,253	\$313,588
		Mean	\$3,486	\$8,021	\$49,639	\$3,315	\$64,460
		Total	\$728,481	\$1,676,484	\$10,374,459	\$692,786	\$13,472,209
2021	274	Max	\$31,254	\$79,694	\$277,174	\$153,316	\$280,644
		Mean	\$3,669	\$7,344	\$40,840	\$2,784	\$54,636
		Total	\$722,712	\$1,446,815	\$8,045,398	\$548,351	\$10,763,276
2022	220	Max	\$42,458	\$79,077	\$306,841	\$157,301	\$339,184
		Mean	\$4,053	\$7,907	\$43,698	\$2,469	\$58,127
		Total	\$705,137	\$1,375,842	\$7,603,493	\$429,619	\$10,114,093

Source: SEFSC-Social Science Research Group (SSRG) Socioeconomic Panel (Jul2023 version)

Dockside revenue of red snapper declined by 4% in 2022, relative to 2018. Revenue from other species caught on South Atlantic red snapper trips decreased 52% in 2022, relative to 2018. Revenue from other South Atlantic species not caught on red snapper trips and revenue from Gulf trips decreased during this time period, by 26% and 57%, respectively. Average annual revenue per vessel from red snapper landings was approximately \$3,703 annually (2022\$). The maximum total revenue for a vessel that landed red snapper during this time period was approximately \$380,842 (2022\$). On average from 2018-2022, red snapper accounted for approximately 6% of the total revenue by commercial vessels harvesting South Atlantic red snapper, suggesting there is little financial dependency specifically on South Atlantic red snapper landings.

Economic Value

Estimates of economic returns are not directly available for the red snapper commercial sector in the South Atlantic. The most recent analysis that calculated estimates of economic returns for South Atlantic commercial fishing vessels was Liese (2023). Liese (2023) 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 (2023) produced estimates for a 2018 South Atlantic Snapper-Grouper FMP SOI. This SOI consists of all logbook trips by permitted vessels where at least one pound of snapper-grouper (snapper, tilefish, and grouper species) managed under 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 red snapper estimates. These estimates are specific to economic performance in the years 2014-2018. The analysis also

provides average estimates of economic returns across 2014 through 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 snapper-grouper 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 expenses, 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 deep-water trip over and above the cash cost of taking the trip (i.e., variable costs of the trip). Trip net revenue is trip revenue minus the costs for fuel, bait, ice, groceries, miscellaneous expenses, 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 snapper-grouper trips, i.e., trip net cash flow and trip net revenue as a percentage of trip revenue. As shown in this table, 48.4% of the average revenues generated on South Atlantic snapper-grouper trips were used to pay for crew labor costs. Fuel/supplies costs accounted for a further 26% of revenues and 43% of revenue is cash flow back to the owner(s). The margin associated with trip net revenue was lower at about 26%, 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 snapper-grouper trips were profitable during this time.

Table 3.3.1.4. Economic characteristics of South Atlantic Snapper-Grouper Fishery trips 2014-2018(2022\$).

	2014	2015	2016	2017	2018	Average
Number of Observations	2,964	2,593	2,612	3,527	2,688	-
Response Rate (%)	83%	83%	94%	92%	94%	-
Trips						
Owner-Operated	83%	88%	82%	78%	73%	81%
Fuel Used per Day at Sea (gallons/day)	33	38	41	41	39	38
Total Revenue	100%	100%	100%	100%	100%	100%
Costs (% of Revenue)						
Fuel	13.4%	11.5%	9.3%	8.9%	10.8%	10.8%
Bait	6.9%	7.2%	7.2%	8.4%	7.2%	7.4%
Ice	1.9%	1.9%	2.1%	2.2%	1.8%	2.0%
Groceries	3.2%	2.8%	3.5%	3.1%	3.5%	3.2%
Miscellaneous	2.8%	2.7%	2.8%	2.5%	2.3%	2.6%
Hired Crew	32.6%	32.8%	29.4%	30.4%	29.5%	30.9%
IFQ Purchase	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Owner-Captain Time	19.6%	18.0%	17.0%	17.0%	15.9%	17.5%
Trip Net Cash Flow	39.0%	41.1%	45.7%	44.4%	44.9%	43.0%
Trip Net Revenue	20.0%	23.2%	28.7%	27.4%	29.0%	26.0%
Labor - Hired & Owner	52.0%	50.7%	46.4%	47.4%	45.4%	48.4%
Fuel & Supplies	28.0%	26.1%	24.9%	25.2%	25.6%	26.0%
Input Prices						
Fuel Price (per gallon)	\$4.36	\$3.37	\$2.60	\$2.75	\$3.11	\$3.24
Hire Crew Wage (per crew-day)	\$317	\$330	\$290	\$312	\$267	\$303
Productivity Measures						
Landings/Fuel Use (lbs./gallon)	8.7	7.7	6.8	8.4	7.3	8.0
Landings/Labor Use (lbs./crew-day)	150	149	141	172	143	151

Source: Liese (2023)

Table 3.3.1.5 provides estimates of the important economic variables at the annual level for all vessels that had South Atlantic snapper-grouper fishery landings from 2014 through 2018. Similar to the trip level, the three most important estimates of economic returns are net cash flow, net revenue from operations, and 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. Net cash flow and net revenue

from operations at the annual vessel level were both positive from 2014 through 2016, generally indicating that South Atlantic snapper-grouper vessels in the commercial sector were profitable (Table 3.3.1.5). Specifically, net cash flow and net revenue from operations averaged 22% and 8%, respectively.

In general, producer surplus (PS) is the difference between total annual revenue and variable costs. However, Liese (2023) states the following about individual fishing quota (IFQ) allocation: “sale of IFQ allocation or shares is also not accounted for, as these transactions cannot be associated with a vessel.” If revenue from the sale of allocation is not accounted for, then the cost of buying allocation should also not be considered in the calculation of PS. Although South Atlantic red snapper are not part of an IFQ program, many vessels that participate in the commercial sector of the of the South Atlantic snapper-grouper fishery also participate in the Gulf IFQ programs. While participation in the red snapper component of requires a South Atlantic snapper-grouper commercial vessel permit, it is unknown how many of these vessels participate in the Gulf IFQ programs. However, since these estimates are derived from the South Atlantic Snapper-Grouper FMP SOI, it is still prudent remove any costs associated with buying allocation in the calculation of net cash flow or PS. Therefore, a more accurate estimate of PS in percentage terms would be 38% of gross revenue based on estimates of variable costs in Table 3.3.1.5.⁶

⁶ PS = 100% - (Labor% + Fuel & Supplies%)

Table 3.3.1.5. Economic characteristics of South Atlantic snapper-grouper vessels from 2014-2018 (2022\$).

	2014	2015	2016	2017	2018	Avg.
Number of Observations	75	101	94	104	98	-
Response Rate (%)	50%	75%	71%	70%	80%	-
Vessels						
Owner-Operated	85%	91%	89%	81%	84%	86%
For-Hire Active	22%	19%	12%	19%	11%	17%
Vessel Value	\$98,231	\$97,429	\$117,118	\$131,452	\$110,881	\$111,022
Total Revenue	100%	100%	100%	100%	100%	100%
Costs (% of Revenue)						
Fuel	15%	12%	10%	10%	12%	12%
Other Supplies	12%	13%	15%	12%	12%	13%
Hired Crew	28%	24%	28%	28%	24%	27%
Vessel Repair & Maintenance	15%	16%	15%	11%	15%	14%
Insurance	2%	2%	2%	2%	2%	2%
Overhead	7%	8%	10%	6%	7%	8%
Loan Payment	3%	3%	5%	2%	2%	3%
IFQ Purchase	0%	0%	0%	0%	0%	0%
Owner-Captain Time	11%	13%	13%	10%	10%	11%
Net Cash Flow	19%	22%	16%	29%	25%	22%
Net Revenue for Operations	6%	8%	0%	17%	10%	8%
Depreciation	5%	5%	7%	5%	6%	6%
Fixed Costs	23%	26%	28%	18%	24%	24%
Labor - Hired & Owner	39%	27%	41%	38%	35%	38%
Fuel & Supplies	27%	25%	25%	22%	24%	24%
Economic Return	5%	7%	20%	17%	8%	8%

Source: Liese (2023)

Dealers

The information in Table 3.3.1.6 illustrates the purchasing activities of dealers that bought South Atlantic red snapper landings, and other South Atlantic species from vessels from 2018 through 2022. Additionally, purchases by these dealers of species harvested in the Gulf is also shown to provide a full accounting of the purchasing activities of South Atlantic red snapper dealers. The total number of dealers purchasing red snapper declined each year from 2018-2022 and averaged 75 dealers per year. In 2022, the total number of dealers purchasing red snapper was approximately 8% fewer relative to 2018. Red snapper purchases by dealers varied during this period with an increase of 3% in 2022, relative to 2018. Average total annual purchases by all dealers of South Atlantic red snapper were \$774,143 and average red snapper purchases per dealer increased by 12% over that time.

The total value of all other South Atlantic species purchased by these dealers increased by 6% in 2022, relative to 2018. Gulf species purchases average value increased by about 55% in 2022, relative to 2018. Total purchases for all species by dealers purchasing South Atlantic red snapper averaged approximately \$85.5 million (2022\$) 2018-2022. South Atlantic red snapper made up approximately less than 1% of total purchases by these dealers, indicating that there is a very low financial dependency on red snapper landings. Additionally, because of federal dealers' ability to switch to purchasing other species, changes to those values because of the management measures considered in this amendment are likely to be relatively small. Similarly, any additional PS and profit generated from red snapper sales further up the distribution chain to wholesalers/distributors, grocers, and restaurants is likely minimal, given the vast number of seafood and other products they handle and their even greater ability to shift to purchasing other products.

Estimates on the mark-ups between the ex-vessel price and dealer sales price of red snapper are unavailable. Keithly and Wang (2018) estimated the most recent mark-ups between the ex-vessel price and dealer sales price. However, those estimates only apply to grouper and tilefish. Further, these are insufficient to estimate PS or profit for red snapper dealers, or changes to such as a result of regulatory changes, in part because costs other than the raw fish costs (which are equivalent to the ex-vessel value) are not considered. NMFS does not have estimates of those other costs for red snapper dealers or seafood dealers more broadly, and thus does not have estimates of net cash flow or net revenue from operations for red snapper dealers comparable to those in the commercial harvesting sector. Thus, while it is likely that the harvest of red snapper generates some PS and profit for red snapper dealers, NMFS does not possess the data to estimate PS and profit.

Table 3.3.1.6. Dealer statistics for dealers that purchased red snapper landings by year, 2018-2022. All dollar estimates are in 2022\$.

Year	Number Dealers	Statistic	Red Snapper Purchases	Other SA Species Purchases	Other Gulf Species Purchases	Total Purchases
2018	78	Maximum	\$122,505	\$9,666,855	\$4,642,370	\$9,670,721
		Mean	\$9,803	\$835,248	\$118,529	\$963,580
		Total	\$764,595	\$65,149,363	\$9,245,272	\$75,159,230
2019	77	Maximum	\$168,988	\$12,036,590	\$4,260,086	\$12,082,527
		Mean	\$9,789	\$1,021,650	\$168,437	\$1,199,876
		Total	\$753,715	\$78,667,044	\$12,969,680	\$92,390,439
2020	74	Maximum	\$173,668	\$9,578,971	\$3,952,366	\$9,585,397
		Mean	\$10,549	\$1,015,857	\$158,396	\$1,184,802
		Total	\$780,642	\$75,173,404	\$11,721,328	\$87,675,375
2021	72	Maximum	\$135,012	\$9,902,076	\$5,070,209	\$10,207,107
		Mean	\$10,858	\$1,060,524	\$148,673	\$1,220,055
		Total	\$781,791	\$76,357,705	\$10,704,460	\$87,843,955
2022	72	Maximum	\$129,487	\$8,616,203	\$6,433,062	\$15,149,776
		Mean	\$10,972	\$962,538	\$199,262	\$1,172,772
		Total	\$789,972	\$69,302,717	\$14,346,869	\$84,439,558

Source: SERO ALS Data (2023)

Imports

Imports of foreign seafood products compete in the domestic seafood market and, in fact, dominate 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 ex-vessel prices fishermen receive for landings. As substitutes to domestic production, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings. Imports that directly compete with domestic snapper-grouper including South Atlantic red snapper are described in this section.

Snappers

According to NMFS' foreign trade data, South Atlantic red snapper and other snapper species are not exported from the U.S. to other countries. Therefore, imports of fresh and frozen snapper products (which directly compete with domestic harvest of snapper-grouper species) are described in this section. As shown in Table 3.3.1.7, imports of fresh snapper products were 30.5 million lb product weight (pw) in 2018. They peaked at 36.0 million lb pw in 2021. The total value from snapper imports increased to a five-year high of \$159.1 million in 2021 (2022\$). The average price per pound for fresh snapper products was \$4.00 from 2018-2022 and has been steadily increasing, reaching the highest price per pound in 2021. Imports of fresh snapper products primarily originated in Mexico, Nicaragua, or Panama, entering 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, 2018-2022. All monetary estimates are in 2022\$.

	2018	2019	2020	2021	2022
Pounds of fresh Snapper imports (product weight, million pounds)	30.5	32.8	32.4	36.0	32.2
Value of fresh Snapper imports (millions \$, 2022\$)	111.1	123.8	121.7	159.1	142.2
Average price per lb (2022\$)	\$3.64	\$3.78	\$3.76	\$4.42	\$4.42
Share of Imports by Country					
Mexico	32.5	34.9	40.4	32.8	31.2
Nicaragua	16.6	13.9	15.1	13.3	14.9
Panama	17.0	14.6	11.0	14.0	10.6
All others	33.9	36.6	33.5	39.9	43.4

Source: NOAA Foreign Trade Query Tool, accessed 12/01/23.

As shown in Table 3.3.1.8., imports of frozen snapper increased 49% from 2018 to 2021. Total revenue from frozen snapper imports increased from \$40.4 million (2022\$) in 2018 to a five-year high of \$71.3 million in 2021 (2022\$). Total revenue of frozen snapper products declined by a 6% decrease in 2022, relative to 2021. The average price per pound for frozen snapper products was \$3.58 from 2018-2022, and has been increasing recently. Frozen snapper product imports primarily originated in Brazil, Suriname, and Indonesia. Frozen snapper product imports primarily entered through the port of Miami.

Table 3.3.1.8. Annual pounds and value of frozen snapper imports and share of imports by country, 2018-2022.

	2018	2019	2020	2021	2022
Pounds of frozen Snapper imports (product weight, million pounds)	12.2	11.4	15.9	18.2	16.9
Value of frozen Snapper imports (millions \$, 2022\$)	40.4	39.4	51.9	71.3	66.7
Average price per lb (2022\$)	\$3.31	\$3.46	\$3.27	\$3.91	\$3.94
Share of Imports by Country					
Brazil	63.8	54.6	55.4	58.6	64.1
Suriname	6.9	13.5	10.3	10.5	5.5
Indonesia	11.3	6.8	5.4	3.9	8.0
All others	17.9	25.0	28.9	27.0	22.4

Source: NOAA Foreign Trade Query Tool, accessed 12/01/23.

Groupers

According to NMFS' foreign trade data,⁷ grouper are not exported. Therefore, imports of fresh and frozen grouper products (which also directly compete with domestic harvest of snapper-grouper species) are described in this section. As shown in Table 3.3.1.9., imports of fresh grouper products peaked in 2018. Total value of fresh grouper imports has been variable, and

⁷ <https://www.fisheries.noaa.gov/foss/>

averaged \$57.3 million annually. The average price per pound for fresh grouper products was \$4.92 from 2018-2022. Imports of fresh grouper products primarily originated in the countries of Mexico, Panama and Brazil.

Table 3.3.1.9. Annual pounds and value of fresh grouper imports and share of imports by country, 2018-2022.

	2018	2019	2020	2021	2022
Pounds of fresh Grouper imports (product weight, million pounds)	12.4	11.3	10.4	12.2	11.7
Value of fresh Grouper imports (millions \$, 2022\$)	61.5	56.9	43.6	61.6	63.1
Average price per lb (2022\$)	\$4.96	\$5.03	\$4.18	\$5.03	\$5.39
Share of Imports by Country					
Mexico	58.0	57.9	67.6	54.4	44.0
Brazil	15.9	16.9	12.3	18.1	23.9
Panama	9.0	8.1	8.0	10.9	13.4
All others	17.1	17.0	12.2	16.6	18.7

Source: NOAA Foreign Trade Query Tool, accessed 01/25/23.

As shown in Table 3.3.1.10, imports of frozen grouper products peaked at 4.6 million lb pw in 2018 declining to a low of 0.8 million lb. pw in 2020. Total revenue from frozen grouper decreased 2018 to 2020, but increased to \$2.8 million in 2022. The average price per pound for frozen grouper products was \$1.75 from 2018-2022, and increased 66% by 2022. Imports of frozen grouper products primarily originated in Brazil, Suriname, and Indonesia.

Table 3.3.1.10. Annual pounds and value of frozen grouper imports and share of imports by country, 2018-2022.

	2018	2019	2020	2021	2022
Pounds of frozen Grouper imports (product weight, million pounds)	4.6	3.5	0.8	2.2	1.3
Value of frozen Grouper imports (millions \$, 2022\$)	5.7	4.5	1.4	5.1	2.8
Average price per lb (2022\$)	\$1.25	\$1.30	\$1.77	\$2.34	\$2.07
Share of Imports by Country					
Brazil	78.9	79.2	33.7	23.5	26.2
Suriname	11.8	11.2	25.9	30.6	16.2
Indonesia	3.0	3.0	1.1	22.2	5.9
All others	6.3	6.5	39.3	23.7	51.7

Source: NOAA Foreign Trade Query Tool, accessed 01/25/23.

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 red snapper purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods and services. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic 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 all Gulf reef fish species and Gulf lane snapper specifically were derived using the model developed for and applied in NMFS (2023)⁸ 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 red snapper from 2018 through 2022. 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 red snapper are not available. Between 2018 and 2022, landings of South Atlantic red snapper resulted in

⁸ A detailed description of the input/output model is provided in the 2020 Fisheries Economics of the U.S. report NMFS (2023).

approximately \$720,700 (2022\$) in gross revenue on average. In turn, this revenue generated employment, income, value-added, and output impacts of 80 jobs, \$2.6 million, \$3.7 million, and \$7.1 million per year, respectively, on average.

Table 3.3.1.11. Average annual economic impacts in the commercial sector of the South Atlantic red snapper. All monetary estimates are in thousands of 2022 dollars and employment is measured in full-time equivalent jobs.

Harvesters	Direct	Indirect	Induced	Total
Employment impacts	14	2	3	19
Income impacts	\$389	\$72	\$175	\$636
Total value-added impacts	\$415	\$260	\$299	\$974
Output Impacts	\$721	\$586	\$580	\$1,887
Primary dealers/processors	Direct	Indirect	Induced	Total
Employment impacts	3	1	2	6
Income impacts	\$127	\$117	\$111	\$355
Total value-added impacts	\$135	\$149	\$208	\$493
Output impacts	\$409	\$308	\$407	\$1,124
Secondary wholesalers/distributors	Direct	Indirect	Induced	Total
Employment impacts	1	0	1	3
Income impacts	\$76	\$22	\$80	\$178
Total value-added impacts	\$81	\$38	\$136	\$254
Output impacts	\$203	\$74	\$264	\$541
Grocers	Direct	Indirect	Induced	Total
Employment impacts	6	1	1	8
Income impacts	\$156	\$52	\$78	\$285
Total value-added impacts	\$166	\$83	\$132	\$381
Output impacts	\$266	\$135	\$260	\$661
Restaurants	Direct	Indirect	Induced	Total
Employment impacts	36	2	6	44
Income impacts	\$624	\$189	\$357	\$1,171
Total value-added impacts	\$665	\$338	\$602	\$1,606
Output impacts	\$1,216	\$529	\$1,189	\$2,934
Harvesters and seafood industry	Direct	Indirect	Induced	Total
Employment impacts	60	7	13	80
Income impacts	\$1,371	\$453	\$800	\$2,625
Total value-added impacts	\$1,462	\$869	\$1,378	\$3,708
Output impacts	\$2,814	\$1,633	\$2,700	\$7,147

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2023).

*Converted to 2022 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

The following summaries of South Atlantic red snapper recreational landings (Tables 3.3.2.1 - 3.3.2.3) are based solely on NMFS Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES) data, and so would not match exactly with the landings presented in Table 3.3.1.2.⁹

Recreational South Atlantic red snapper landings have been highly variable from 2018 through 2022 (Table 3.3.2.1). Landings peaked in 2018 at approximately 5.8 million pounds whole weight (lbs ww), greatly exceeding any other year's landings. Private vessels accounted for the majority of red snapper landings (97%) on average from 2018 through 2022. Charter vessels accounted for 3% of total landings on average, and headboats making up the remaining 1% from 2018 through 2022. No shore-mode landings for South Atlantic red snapper were recorded. The majority of landings on average occurred in Florida (93%) (Table 3.3.2.2). Wave 4, which includes the months of July and August, had the majority of landings on average from 2018 through 2022 (Table 3.3.2.3).

⁹ Landings reported in 3.2.1.2 utilize individual state's red snapper survey data in addition to MRIP-FES data for greater accuracy. However, trends in landings estimates in 3.2.1.2 cannot be compared to trends in effort estimates presented in Tables 3.3.2.5 & 3.3.2.6, which are exclusively based on MRIP-FES data. Therefore, landings data presented in this section are exclusively based on the NMFS Recreational ACL dataset using MRIP-FES data to preserve comparability with MRIP-FES effort estimates.

Table 3.3.2.1. Recreational landings (lbs ww) and percent distribution of South Atlantic red snapper across all states by mode for 2018-2022.

Year	Landings (pounds ww)				Percent Distribution		
	Charter vessel	Headboat	Private	Total	Charter vessel	Headboat	Private
2018	27,204	30,126	5,783,748	5,841,077	0%	1%	99%
2019	243,857	26,279	2,055,295	2,325,432	10%	1%	88%
2020	37,060	18,305	4,519,858	4,575,222	1%	0%	99%
2021	53,519	9,308	821,032	883,859	6%	1%	93%
2022	15,870	8,751	1,155,780	1,180,401	1%	1%	98%
AVG	75,502	18,554	2,867,143	2,961,198	3%	1%	97%

Source: Recreational ACL dataset (October 23, 2023) using MRIP FES data.

Table 3.3.2.2. Recreational landings (lbs ww) and percent distribution of South Atlantic red snapper by state* for 2018-2022.

	Landings (pounds ww)					Percent Distribution			
	FL	GA	NC	SC	Total	FL	GA	NC	SC
2018	5,638,003	197,400	3,904	1,771	5,841,077	97%	3%	0%	0%
2019	1,966,997	193,971	1,050	163,413	2,325,432	85%	8%	0%	7%
2020	4,364,218	117,487	7,568	85,950	4,575,222	95%	3%	0%	2%
2021	741,829	66,090	74,996	945	883,859	84%	7%	8%	0%
2022	1,077,408	20,994	81,541	458	1,180,401	91%	2%	7%	0%
AVG	2,757,691	119,188	33,812	50,508	2,961,198	93%	4%	1%	2%

Source: Recreational ACL dataset (October 23, 2023) using MRIP FES data.

Table 3.3.2.3. Recreational landings (lbs ww) and percent distribution of South Atlantic red snapper by MRIP wave for 2018-2022.

Landings (pounds ww)						
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
2018	7	0	12,816	1,793	104,675	944,615
2019	0	364	26,364	5,814,237	112	0
2020	354	0	3,410	2,321,668	0	0
2021	0	0	1,124	4,574,098	0	0
2022	0	0	7,018	833,015	1,370	42,456
AVG	72	73	10,147	2,708,962	21,231	197,414
Percent Distribution						
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
2018	0%	0%	0%	100%	0%	0%
2019	0%	0%	0%	100%	0%	0%
2020	0%	0%	0%	100%	0%	0%
2021	0%	0%	1%	94%	0%	5%
2022	0%	0%	6%	87%	0%	7%
AVG	0%	0%	1%	98%	0%	1%

Source: Recreational ACL dataset (October 23, 2023) using MRIP FES data.

Permits

For-hire Permits

There are no specific federal permitting requirements for recreational anglers to fish for or harvest red snapper. The same is true of private recreational vessel owners. Instead, private anglers in the South Atlantic states 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 the current available data how many individual anglers or private recreational vessels would be expected to be affected by the actions in this interim measure.

A federal charter/headboat (for-hire) vessel permit is also required for fishing in federal waters for South Atlantic snapper-grouper. For-hire Atlantic Snapper-Grouper permits are open access permits (i.e., access is not restricted). From 2016 through 2020, the number of For-hire South Atlantic Snapper-Grouper permits that were valid in a given year has increased every year until 2019 as illustrated in Table 3.3.2.4. The number of For-hire South Atlantic Snapper-Grouper permits that were valid fell by 2% in 2020, relative to 2019.

Table 3.3.2.4. Number of valid For-hire South 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).¹⁰

Tables 3.3.2.5 and 3.3.2.6 describe the recreational target and catch trips for red snapper in the South Atlantic from 2018 through 2022. There are no catch or target trips by shore mode for red snapper in the South Atlantic. Private vessels represent 99% of red snapper target effort in the recreational sector. As shown in Table 3.3.2.5, within the private vessel mode the majority of target effort occurs in Florida (93%), followed by South Carolina (4%).

Private vessels are also responsible for the majority of catch effort for red snapper (95%). Catch effort by charter vessels represents the remaining 5% of the total average catch effort from 2018-2022. Private vessels in Florida account for the majority of catch effort for red snapper (87%), followed by charter vessels also in Florida (4%), and private vessels in South Carolina (4%). As expected, the trends in catch effort mimic the trends in landings, with the peak occurring in 2018 and declining thereafter (Table 3.3.2.6).

¹⁰ <https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries/>

Table 3.3.2.5. Red snapper recreational target trips, by mode and state, 2018-2022.

Mode	Year	Florida	Georgia	North Carolina	South Carolina	Total
Charter	2018	2,336	196	380	0	2,912
	2019	15,416	415	0	0	15,831
	2020	3,843	0	0	535	4,378
	2021	3,028	0	22	0	3,050
	2022	2,956	39	0	0	2,995
	Average		5,516	130	80	107
Private	2018	1,022,123	4,475	0	2,478	1,029,076
	2019	142,558	17,770	1,087	29,000	190,415
	2020	652,654	13,584	491	49,846	716,575
	2021	101,429	7,893	8,119		117,441
	2022	224,149	2,557	0	0	226,706
	Average		428,583	9,256	1,939	20,331
All	2018	1,024,459	4,671	380	2,478	1,031,988
	2019	157,974	18,185	1,087	29,000	206,246
	2020	656,497	13,584	491	50,381	720,953
	2021	104,457	7,893	8,141	0	120,491
	2022	227,105	2,596	0	0	229,701
	Average		434,098	9,386	2,020	16,372

Source: MRIP Survey Data available at:

<https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>.

Table 3.3.2.6. Red Snapper recreational catch trips, by mode and state, 2018-2022.

Mode	Year	Florida	Georgia	North Carolina	South Carolina	Total
Charter	2018	25,691	1,432	897	1,028	29,048
	2019	41,451	562	212	2,639	44,864
	2020	36,683	314	1,117	1,820	39,934
	2021	36,164	374	1,834	2,622	40,994
	2022	24,109	222	1,033	4,258	29,622
	Average		32,820	581	1,019	2,473
Private	2018	1,056,090	11,014	0	2,842	1,069,946
	2019	547,307	28,466	4,871	33,704	614,348
	2020	841,022	29,765	6,999	42,201	919,987
	2021	450,636	22,981	15,598	32,175	521,390
	2022	355,721	35,774	19,669	32,391	443,555
	Average		650,155	25,600	11,784	28,663
All	2018	1,081,781	12,446	897	3,870	1,098,994
	2019	588,758	29,028	5,083	36,343	659,212
	2020	877,705	30,079	8,116	44,021	959,921
	2021	486,800	23,355	17,432	34,797	562,384
	2022	379,830	35,996	20,702	36,649	473,177
	Average		682,975	26,181	10,446	31,136

Source: MRIP Survey Data available at:

<https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>.

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 variable across the South Atlantic states from 2018 through 2022 (Table 3.3.2.7). Florida/Georgia were responsible for the vast majority of headboat effort during this time, accounting for about 67% of the total headboat effort. Headboat effort in Florida/Georgia declined considerably in 2020, about 32% relative to the previous three years. Headboat effort in North Carolina and South Carolina effort vacillated during this time period, but to a much lesser extent than Florida/Georgia.

Table 3.3.2.7. South Atlantic headboat angler days and percent distribution by state (2018-2022).

	Angler Days			Percent Distribution		
	EFL/GA*	NC	SC	EFL/GA	NC	SC
2018	241,114	33,623	75,221	69%	10%	21%
2019	239,413	31,100	82,939	68%	9%	23%
2020	168,008	28,306	68,159	64%	11%	26%
2021	240,726	39,434	95,815	64%	10%	25%
2022	209,968	32,276	77,496	66%	10%	24%
Average	219,846	32,948	79,926	66%	10%	24%

Source: NMFS Southeast Region Headboat Survey (SRHS 2023).

*Florida and Georgia are combined for confidentiality purposes.

Economic Value

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is consumer surplus (CS), which is the difference between the maximum amount an angler would be willing to pay for a fish and the amount they paid for the trip¹¹. CS represents a savings the consumer’s income that enable spending on other goods and services, leading to an overall increase in utility or satisfaction for the angler. All else equal, the amount anglers are willing to pay and the costs of fishing can vary depending on expected catch rates, harvest rates, and existing regulations. The economic value of changes in expected catch rates, harvest rates, or existing regulations can be measured by any associated changes in CS. However, because recreationally caught fish are non-market goods and there are no transaction data available, CS cannot be measured directly. Instead, using survey elicitation methods, it is possible to estimate hypothetical willingness to pay (WTP) values¹² that are a close approximation to CS. The benefit-cost analysis presented in this document will use these average WTP values as a proxy for CS when calculating net economic benefits. Carter and Liese (2012) produced estimates of CS for recreationally caught red snapper in the South Atlantic. According to Carter and Liese (2012), the CS for catching and keeping a second red snapper¹³ on an angler trip is approximately \$79.76 (2022\$), and decreases thereafter (approximately \$53.17 for a third red snapper, \$39.19 for a fourth red snapper, and \$28.88 for a fifth red snapper (Carter and Liese 2012).

Estimates of average annual gross revenue for charter vessels are only available from Holland et al. (2012). After adjusting for inflation, the best available estimate of average annual charter vessel revenue is \$141,288 (2022\$). Holland et al. (2012) also provided an estimate of average annual gross revenue for South Atlantic headboats, which is \$249,789 in 2022\$. However, a more recent estimate of average annual gross revenue for South Atlantic headboats is available from D. Carter, Southeast Fisheries Science Center, pers. comm. 2018. D. Carter, Southeast Fisheries Science Center, pers. comm. 2018 recently estimated that average annual gross

¹¹ Holding income and the prices of other goods constant.

¹² These are measures of compensating surplus, or the amount of money that an angler would be willing to pay in order to harvest the additional fish, while maintaining the same level of utility.

¹³ 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.

revenue for South Atlantic headboats were approximately \$342,762 (2022\$) 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 the most recent estimate available. The difference in the Holland et al. (2012) and D. Carter, Southeast Fisheries Science Center, pers. comm. 2018 estimate for headboats suggests that the estimate for charter vessels based on Holland et al. (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 D. Carter, Southeast Fisheries Science Center, pers. comm. 2018 as that study did not collect cost data. Although Holland et al. (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 3.3.2.8, 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 \$624 and \$2,405 (2022\$), respectively. Given the respective average number of anglers per trip for each fleet, PS per angler trip is estimated to be \$133 for charter vessels and \$73 for headboats.

Table 3.3.2.8. Trip economics for offshore trips by South Atlantic charter vessels and Southeast headboats in 2017 (2022\$).

	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	\$624	\$2,405
Average # of Anglers per Trip	4.7	28.2
Trip Net Cash Flow per Angler Trip	\$133	\$73

Source: Souza 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 is 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 red snapper were calculated using average trip-level impact coefficients derived from the 2020 Fisheries Economics of the U.S. report (NMFS 2023) and underlying data provided by the National Oceanic and Atmospheric Administration Office of Science and Technology. Economic impact estimates in 2017 dollars were adjusted to 2022 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 (2018–2022) resulting from South Atlantic snapper charter, private vessel, and shore target trips are provided in Table 3.3.2.9. To calculate the multipliers from Table 3.3.2.9, 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 3.3.2.9 use state-level multipliers and thus only apply at the state-level. For example, estimates of business activity in Florida represent business activity in Florida only and not to other states (for e.g., a good purchased in Florida may have been manufactured in a neighboring state) or the nation as a whole. The same holds true for each of the other states. 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 and demonstrate the limitations of these types of assessments. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. 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 3.3.2.9 may be considered a lower bound on the economic activity associated with those trips that targeted red snapper or all snapper-grouper species combined.

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 3.3.2.9. Estimated average annual economic impacts (2018-2022) from South Atlantic charter and private vessel red snapper target trips*, by state, using state-level multipliers. All monetary estimates are in 2022 dollars in thousands.

Impacts	NC	SC	GA	FL
Charter Mode				
Target Trips	80	107	130	5,516
Value Added Impacts	\$38	\$30	\$28	\$1,465
Sales Impacts	\$66	\$51	\$47	\$2,459
Income Impacts	\$22	\$17	\$16	\$866
Employment (Jobs)	1	0	0	20
Private/Rental Mode				
Target Trips	1,939	20,331	9,256	428,583
Value Added Impacts	\$68	\$537	\$260	\$13,375
Sales Impacts	\$113	\$825	\$395	\$19,956
Income Impacts	\$40	\$253	\$126	\$6,608
Employment (Jobs)	1	9	5	170
All Modes				
Target Trips	2,019	20,438	9,386	434,099
Value Added Impacts	\$107	\$567	\$288	\$14,840
Sales Impacts	\$180	\$876	\$442	\$22,415
Income Impacts	\$62	\$270	\$142	\$7,474
Employment (Jobs)	2	10	5	191

* No shore mode trips were recorded during this time period.

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. National-level multipliers must be used to account for interstate and interregional trading. Between 2018 and 2022, and using national-level multipliers, South Atlantic red snapper target effort generated employment, income, value-added, and output (sales) impacts of 283 jobs, \$8.4 million, \$30.2 million, and \$53.2 million per year, respectively, on average.

3.4. Social Environment

This interim measure affects the commercial and recreational management of red snapper in the South Atlantic. This section provides the background for the proposed actions, which are evaluated in Chapter 4. Commercial and recreational red snapper landings and snapper-grouper permits by state are included to provide information on the geographic distribution of fishing involvement. Descriptions of the top-ranking communities by the number of commercial snapper-grouper permits are included, top communities based on commercial landings of red snapper, commercial engagement and reliance for the top communities based on commercial landings of red snapper, top-ranking communities by the number of for-hire snapper-grouper permits, and top communities based on recreational engagement and reliance. Community level data are presented in order to meet the requirements of National Standard 8 of the Magnuson-Stevens Act, which requires the consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered. Lastly, social vulnerability data are presented to assess the potential for environmental justice concerns. Additional detailed

information about communities in the following analysis can be found on the SERO's Community Snapshots website.¹⁴

3.4.1. Commercial Sector

Landings by State

The greatest proportion of commercial red snapper landings came from waters adjacent to Florida and Georgia (average of 83.6% from 2017-2022, Table 3.2.1.1), followed by North Carolina (10.3%), and South Carolina (6.1%). Preliminary data from 2023 follow a similar trend with the majority of landings from waters adjacent to Florida and Georgia (78.1%), followed by North Carolina (10.3%), and South Carolina (6.1%). The landings for Florida and Georgia are combined to protect confidentiality; however, the proportion of landings attributable to Georgia is minor.

Permits

The majority of snapper-grouper unlimited permits are issued to entities, such as individuals and businesses in Florida (67.2%), followed by North Carolina (19.3%), South Carolina (7.9%), and Georgia (1.5%), SERO Permits Office, April 8, 2021). Residents of other states (Illinois Louisiana, Michigan, Minnesota, New Jersey, New York, Ohio, Texas, and West Virginia) also hold snapper-grouper unlimited permits, but these states represent a small percentage of the issued permits.

South Atlantic snapper-grouper unlimited permits are held by those with mailing addresses in 152 communities (SERO Permits Office, April 8, 2021). Communities with the most snapper-grouper unlimited permits are located in Florida, South Carolina, North Carolina, and Texas (Table 3.4.1.1). The communities with the most snapper-grouper unlimited permits are Key West (9.8% of snapper-grouper unlimited permits), Jacksonville (7.9%), and Miami, Florida (3.7%).

¹⁴ <https://www.fisheries.noaa.gov/southeast/socioeconomics/snapshots-human-communities-and-fisheries-gulf-mexico-and-south-atlantic>

Table 3.4.1.1. Top communities by number of South Atlantic snapper-grouper unlimited permits and 225-lb trip-limited permits.

State	Community	Unlimited Permits	State	Community	225-lb Trip-Limited Permits
FL	Key West	51	FL	Key West	9
FL	Jacksonville	41	FL	Marathon	8
FL	Miami	19	FL	Jupiter	6
FL	Rockledge	13	FL	Big Pine Key	5
SC	Little River	12	FL	Miami	5
FL	Marathon	11	FL	Summerland Key	5
NC	Southport	11	FL	Fort Pierce	3
FL	Key Largo	10	FL	Key Largo	3
FL	Summerland Key	10	NC	Wilmington	3
NC	Hampstead	10			
SC	Murrells Inlet	10			
FL	Hialeah	9			
FL	Jupiter	9			
FL	Port Orange	9			
FL	Tavernier	9			
FL	Winter Springs	8			
TX	Corpus Christi	8			

Source: SERO Permits Office, April 8, 2021.

The majority of snapper-grouper 225-lb trip-limited permits are issued to entities, such as individuals and businesses in Florida (85.6%), followed by North Carolina (9.3%), SERO Permits Office, April 8, 2021). Residents of other states (New Jersey, South Carolina, Texas, and Virginia) also hold snapper-grouper 225-lb trip-limited permits, but these states represent a small percentage of the issued permits.

South Atlantic commercial snapper-grouper 225-lb trip-limited permits are held by those with mailing addresses in 51 communities (SERO Permits Office, April 8, 2021). Communities with the most commercial snapper-grouper 225-lb trip-limited permits are located in Florida and North Carolina (Table 3.4.1.1). The communities with the most snapper-grouper 225-lb trip-limited permits are Key West (9.3% of snapper-grouper 225-lb trip-limited permits), Marathon (8.2%), and Jupiter, Florida (6.2%).

Regional Quotient

The descriptions of communities include information about the top communities based on a “regional quotient” (RQ) of commercial landings for red snapper. The RQ is the proportion of landings out of the total landings of that species for that region and that year, and is a relative measure. The RQ is reported individually only for the top 10 communities by total landings for the years of 2018 through 2022. All other communities that landed red snapper are grouped as “Other Communities.” Figure 3.4.1.1 shows the RQ in percentage of pounds from 2018 to 2022. A time series is presented because landings of red snapper by community are highly variable by

year because of a short season and difference in landings per year. The top community of Cocoa, Florida, has relatively stable landings by year for nearly all years, but had no reported landings of red snapper in 2022. Whereas, the neighboring community of Cape Canaveral, Florida, included landings of red snapper in 2022, but no landings in other years. The top red snapper communities are located in Florida and North Carolina. About 27% of the total red snapper landings from 2018 to 2022 is landed in the top two communities of Cocoa and Port Orange, Florida, combined.

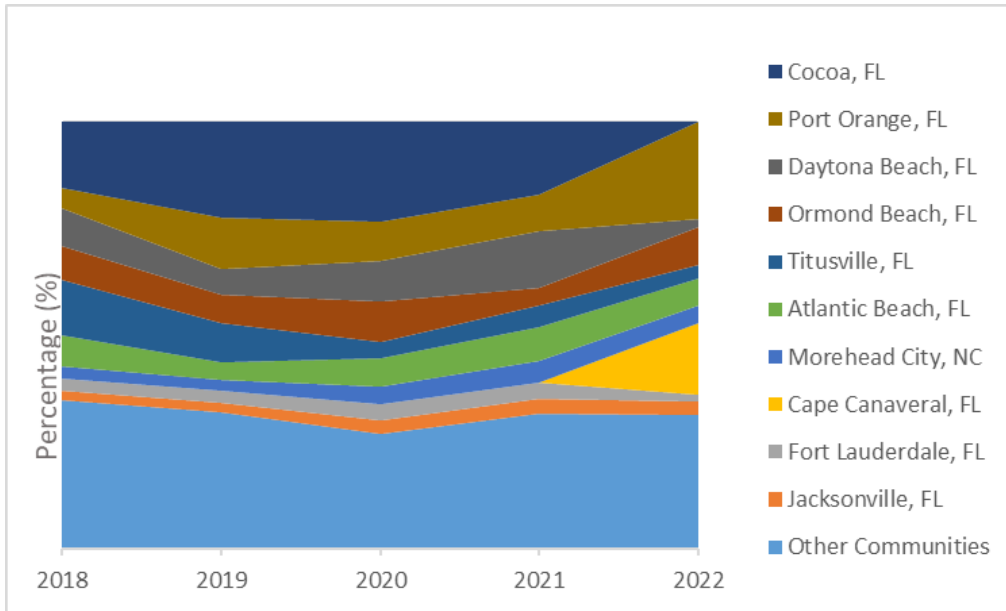


Figure 3.4.1.1. Regional Quotient (pounds) for top South Atlantic communities by red snapper landings from 2018 through 2022. The actual RQ values (y-axis) are omitted from the figure to maintain confidentiality.

Source: SERO, Community ALS.

Engagement and Reliance

Figure 3.4.1.2 is an overall measure of a community’s commercial fishing engagement and reliance and includes the communities with the strongest relationship to the commercial sector for red snapper as depicted in Figure 3.4.1.1. More than half of the communities in Figure 3.4.1.2 would be considered to be highly or moderately engaged in commercial fishing, as several are at or above 1 standard deviation of the mean factor score and a few are at or above ½ standard deviation. Daytona Beach, Ormond Beach, Titusville, and Atlantic Beach, Florida, show the least amount of engagement in commercial fishing overall. All of the included communities demonstrate low commercial reliance.

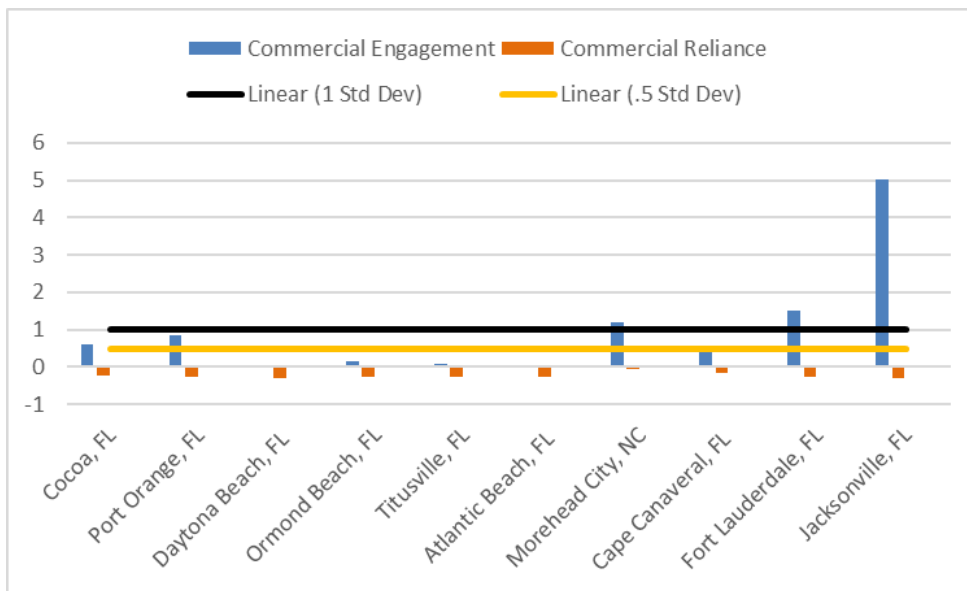


Figure 3.4.1.2. Commercial fishing engagement and reliance for top red snapper communities. Source: SERO, Community Social Vulnerability Indicators Database 2019.

3.4.2. Recreational Sector

Landings by State

The greatest proportion of recreational red snapper landings came from waters adjacent to Florida (average of 62.4% from 2017-2022, Table 3.2.1.2), followed by Georgia (20.3%), South Carolina (13.9%), and North Carolina (3.5%). According to preliminary data, the majority of landings in 2023 are from waters adjacent to Florida (87.7%), followed by Georgia (8%), North Carolina (2.5%), and South Carolina (1.8%).

Permits

The majority of for-hire snapper-grouper permits are issued to entities, such as individuals and businesses in Florida (63.3%), followed by North Carolina (17.2%), South Carolina (8.8%), and Georgia (2.5%), SERO Permits Office, April 8, 2021). Residents of other Gulf states (Alabama, Mississippi, Louisiana, and Texas) also hold a sizable amount of for-hire snapper-grouper permits (2.5%). Residents of other states and territories (Arkansas, California, Delaware, Iowa, Illinois, Indiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Puerto Rico, Rhode Island, and Virginia) also hold for-hire snapper-grouper permits.

South Atlantic for-hire snapper-grouper permits are held by those with mailing addresses in 429 communities (SERO Permits Office, April 8, 2021). Communities with the most for-hire snapper-grouper permits are located in communities in Florida, North Carolina, and South Carolina (Table 3.4.2.1). A large number of communities with the most for-hire snapper-grouper permits are located in the Florida Keys (Key West, Marathon, Islamorada, Tavernier, Summerland Key, and Key Largo). The communities with most South Atlantic for-hire snapper-grouper permits are Key West (8.4% of for-hire snapper-grouper permits), Marathon (3%), and Islamorada, Florida (2.9%).

Table 3.4.2.1. Top communities by number of South Atlantic for-hire snapper-grouper permits.

State	Community	Permits
FL	Key West	136
FL	Marathon	49
FL	Islamorada	47
FL	Tavernier	36
FL	St. Augustine	35
FL	Fort Lauderdale	30
FL	Jacksonville	29
FL	Merritt Island	28
FL	Jupiter	23
NC	Wilmington	23
FL	Summerland Key	22
NC	Hatteras	22
FL	Key Largo	21
FL	Port Orange	19
SC	Charleston	19
FL	Miami	18
SC	Mt. Pleasant	18

Source: SERO Permits Office, April 8, 2021.

Engagement and Reliance

Landings for the recreational sector based on MRIP data are not available by species at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper or snapper-grouper in general. Because limited data are available concerning how communities are engaged and reliant on specific species or species groups in the recreational sector, indices were created using secondary data from permit and infrastructure information for the southeast recreational fishing sector at the community level (Jacob et al. 2013; Jepson and Colburn 2013). Recreational fishing engagement is represented by the number of for-hire permits and vessels designated as “recreational” by homeport and owner address. Fishing reliance includes the same variables as fishing engagement, divided by population. Factor scores of both engagement and reliance were plotted by community.

Figure 3.4.2.1 identifies the top communities that are engaged and reliant upon recreational fishing in general. All included communities demonstrate high levels of recreational engagement. Four communities (Islamorada, Florida; Hatteras, North Carolina; Tavernier, Florida; and Manteo, North Carolina) demonstrate high levels of recreational reliance.

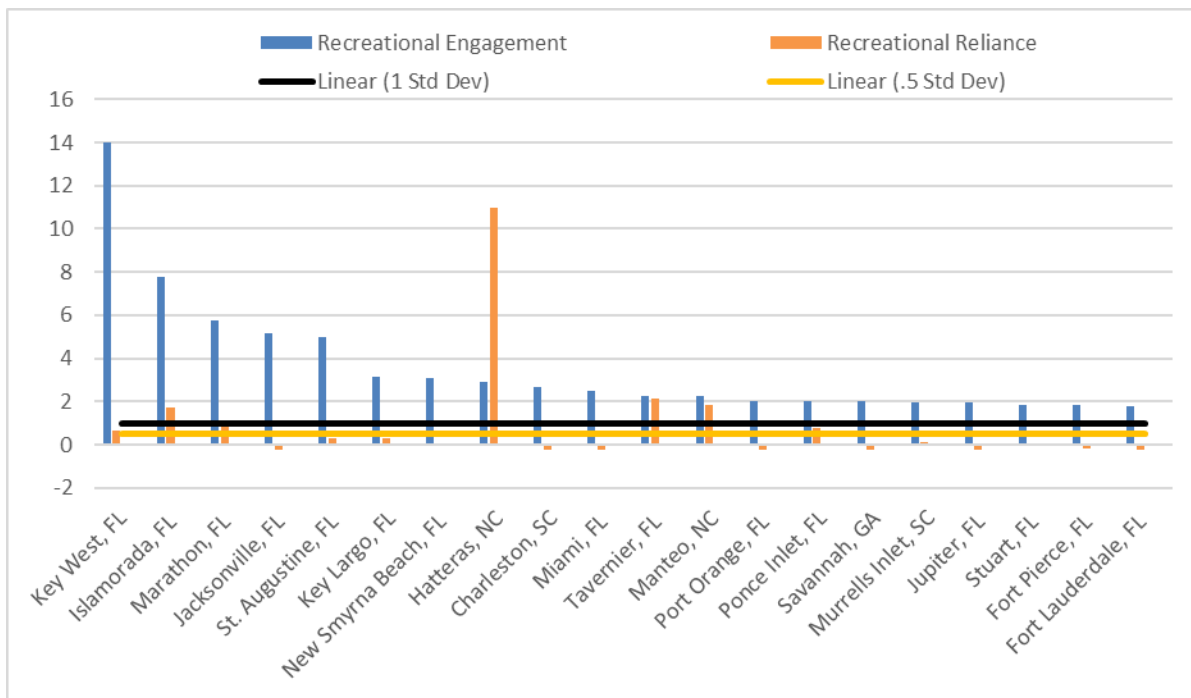


Figure 3.4.2.1. Top 20 communities by recreational fishing engagement and reliance. Source: SERO, Community Social Vulnerability Indicators Database 2019.

The description of fishing activities presented above highlights which communities may be most involved in South Atlantic red snapper and snapper-grouper fishing. It is expected that the impacts from the regulatory action in this regulatory amendment, whether positive or negative, will most likely affect those communities identified above.

3.4.3. Environmental Justice, Equity, and Underserved Communities

Federal agencies are required to consider the impacts and/or address the inequalities of their policies on minority populations, low-income populations, disadvantaged communities, and/or underserved communities. These requirements are outlined in the following Executive Orders (E.O.).

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

E.O. 13985 requires federal agencies to recognize and work to redress inequalities in their policies and programs that serve as barriers to equal opportunity, including pursuing a

comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Federal agencies must assess how programs and policies perpetuate systemic barriers to opportunities and benefits to people of color and other underserved groups in order to equip agencies to develop policies and programs that deliver resources and benefits equitably to all.

E.O. 13985 provides definitions for equity and underserved communities, which expand the definition of a community from being geographically situated, or place-based, as defined through the Magnuson-Stevens Act, to also include communities that share a particular characteristic (e.g., crew of commercial fishing vessels). Equity means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. The term “underserved communities” refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of “equity.”

E.O. 14008 calls on agencies to make achieving EJ part of their missions “by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.” Census data are available to examine the status of communities with regard to minorities and low-income populations. These data describe geographically based communities (e.g., Key West, Florida) and are descriptive of the total population, not limited to the fishing components of the community. Information is not available at this time to examine the status of underserved populations engaged in South Atlantic fisheries. To help assess whether EJ concerns may be present within regional place-based communities, a suite of indices were created using census data to examine the social vulnerability of coastal communities within the region. The three indices are poverty, population composition, and personal disruption. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community’s vulnerability. Poverty includes poverty rates for different groups; population composition includes more single female-headed households, households with children under the age of five, minority populations, and those that speak English less than well; and personal disruption includes disruptions such as higher separation rates, higher crime rates, and unemployment. Increased rates in the indicators are signs of populations experiencing vulnerabilities. Again, for those communities that exceed the threshold it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

Figures 3.4.3.1 and 3.4.3.2 provide social vulnerability rankings for place-based communities identified in Section 3.4 as important to commercial and recreational fishing for red snapper specifically or fishing for snapper-grouper in general. Several communities exceed the threshold of one standard deviation above the mean for at least one of the indices (Fort Pierce, Hialeah, and Miami, Florida, and Manteo, North Carolina). Two of the communities exceed the threshold

for all three of the indices (Fort Pierce and Hialeah, Florida). These communities would be the most likely to exhibit vulnerabilities to social or economic disruption resulting from regulatory change.

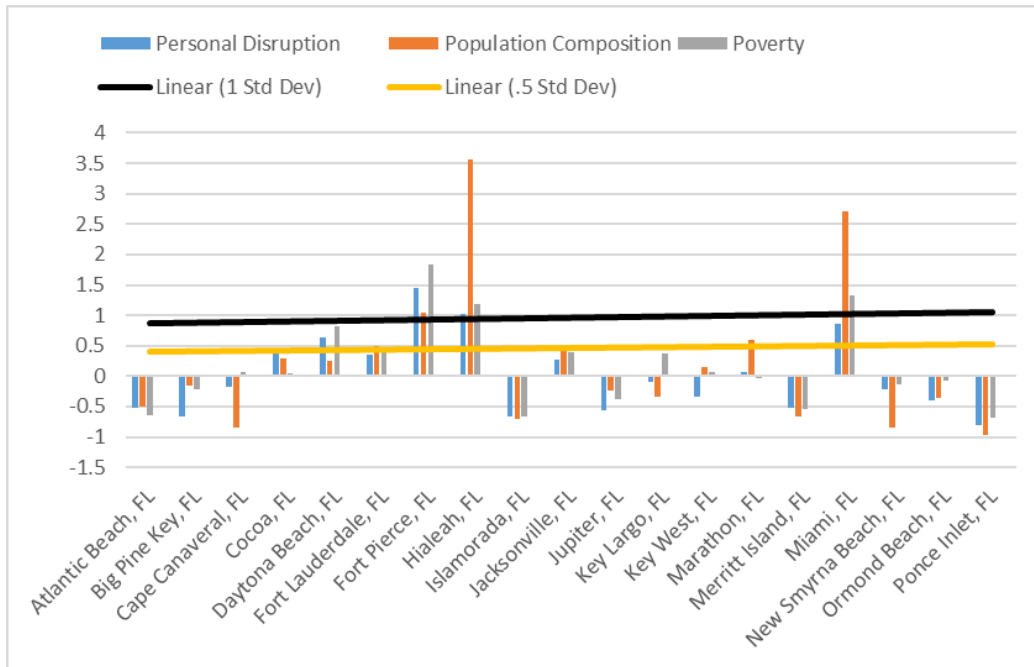


Figure 3.4.3.1. Social vulnerability indices for top commercial and recreational snapper-grouper and red snapper communities.

Source: SERO, Community Social Vulnerability Indicators Database 2020.

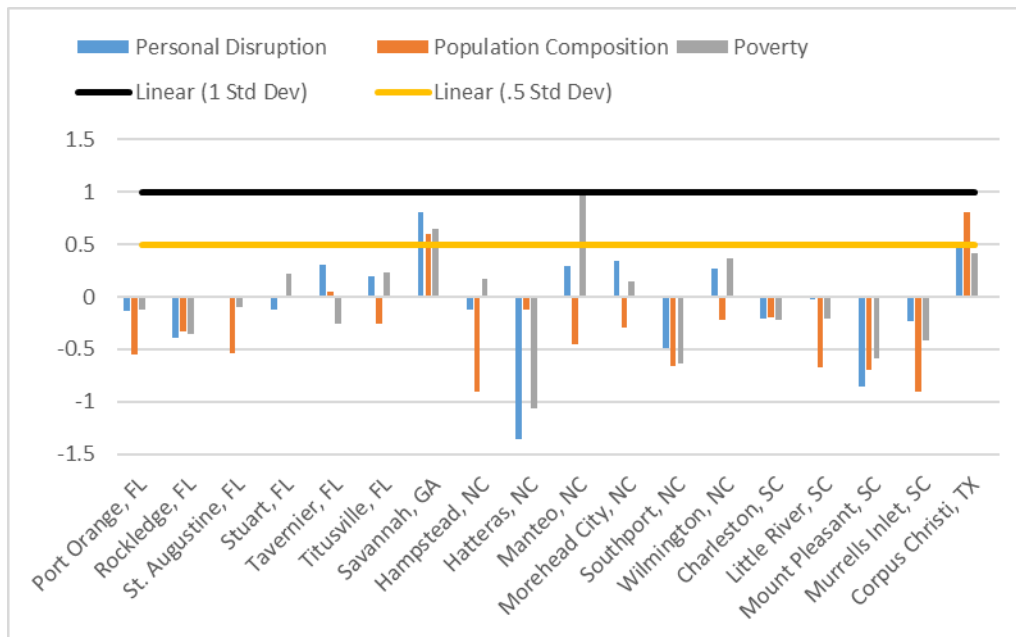


Figure 3.4.3.2. Social vulnerability indices for top commercial and recreational snapper-grouper and red snapper communities continued.

Source: SERO, Community Social Vulnerability Indicators Database 2020.

People in these communities may be affected by fishing regulations in two ways: participation and employment. Although the place-based communities identified in Figures 3.4.3.1 and 3.4.3.2 may have the greatest potential for EJ concerns, complete data are not available on the race and income status for those involved in the local fishing industry (employment), or for their dependence on red snapper specifically (participation). The potential effects of the actions on place based communities and non-place based communities, such as such as commercial fishermen and recreational stakeholders are discussed in Section 4.1.3. There are no known populations that rely on the consumption of red snapper for subsistence. Although no EJ issues have been identified, the absence of potential EJ concerns cannot be assumed.

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.

To assist in fishery management, the Magnuson-Stevens Act established eight regional fishery management councils that represent the expertise and interests of constituent states. Each council has a SSC that provides ongoing scientific advice for fishery management decisions, as well as advisory panels (AP) to assist the council in carrying out its functions under the Magnuson-Stevens Act. Councils, SSCs and APs conduct their business in public meetings, pursuant to procedures prescribed by the Magnuson-Stevens Act and written procedures established by each council. NMFS, with the advice of the regional councils, manages fisheries, with the councils responsible for preparing, monitoring, and revising management plans for fisheries needing conservation and management within their jurisdiction. The Secretary of Commerce (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 (Appendix A). 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 miles 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. 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 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, usually 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.

3.5.3. Enforcement

Both the NOAA 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 <https://www.gc.noaa.gov/gces/2019/SE-SSS-Final-6-27-19.pdf>.

Chapter 4. Environmental Effects and Comparison of Alternatives

4.1. Action 1. Reduce the total and sector annual catch limits for South Atlantic red snapper in 2024

4.1.1. Biological Effects

Expected Effects to Red Snapper

Alternative 1 (No Action) would retain the current total and sector annual catch limits (ACL) in 2024, and would not reduce overfishing of red snapper. This alternative would result in adverse biological impacts from overfishing (fishing mortality too high), potentially including a decrease in the average age and size structure, decline in recruitment, and reduced stock resilience to environmental perturbations.

In general, lower ACLs are expected to result in positive biological effects to the red snapper stock. Relative to **Alternative 1 (No Action)**, **Alternatives 2 through 5** are expected to result in positive biological effects to the red snapper stock by reducing the ACLs and landings. Over the long term, reducing directed harvest of red snapper in 2024 should help improve the age structure of the population and address overfishing, as required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). When compared to **Alternatives 2 and 3**, **Alternative 1 (No Action)** and **Preferred Alternative 4** would result in higher landings for South Atlantic red snapper because red snapper recreational harvest would be allowed.

Overall, **Alternatives 2 through Alternative 5** are equal to or below the most recent acceptable biological catch (ABC) levels recommended by the South Atlantic Fishery Management Council's (Council) Scientific and Statistical Committee (SSC). **Alternative 2** would result in the greatest biological benefits to the red snapper stock, followed by **Alternative 3**, **Alternative**

Alternatives*

1 (No Action). The total ACL for South Atlantic red snapper is 42,510 fish. The commercial sector ACL is 124,815 pounds (lbs) whole weight (ww). The recreational sector ACL is 29,656 fish.

2. Reduce the total and sector ACLs for red snapper to 0 fish.

3. The total ACL for South Atlantic red snapper is 85,268 lbs ww. The commercial sector ACL is 85,268 lbs ww. The recreational sector ACL is 0 fish.

4. The total ACL for South Atlantic red snapper is 31,000 fish. The commercial sector ACL is 85,268 lbs ww. The recreational sector ACL is 21,167 fish.

5. The total ACL for South Atlantic red snapper is 31,000 fish. The commercial sector ACL is 85,268 lbs ww. The recreational sector ACL is 21,167 fish. If the recreational season is projected to be 3 days or less, the fishery would not open.

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

5, and Preferred Alternative 4. Alternative 1 (No Action) would allow the greatest amount of harvest of the action alternatives considered and result in the least biological benefit to the red snapper stock.

Predicting the Recreational and Commercial Season Lengths

Alternatives 2, 3, Preferred 4, and 5 would maintain the current sector allocations as used in **Alternative 1 (No Action)**, which is 28.07% (commercial sector) and 71.93% (recreational sector). Lower catch levels than what are currently specified under the status quo would result in shorter seasons, as proposed by **Alternatives 2 through 5** (Appendix C, Data Analysis).

Recreational Season Length

The total number of days the recreational red snapper season would be open for the various recreational ACLs considered under Action 1 are shown in Table 4.1.1, using four different landings scenarios. The red snapper recreational ACL is predicted to be met ranging from 1 to 3 days under **Alternatives 1 (No Action), Preferred 4, and 5** (Table 4.1.1. and Appendix C). Recreational harvest would be prohibited under **Alternatives 2 and 3**. However, because **Alternative 5** includes the condition that a recreational fishing season would not take place if the season is projected to be three days or less, harvest would also be prohibited under **Alternative 5** because the season length is projected to be 1 day. Therefore, the biological effects under **Alternative 5** would be similar to **Alternatives 2 and 3**. The National Marine Fisheries Service (NMFS) determined that the average of 2021, 2022, and preliminary 2023 landings scenario is the most appropriate to use to determine the 2024 recreational fishing season for each alternative under these interim measures.

Table 4.1.1. Daily catch rate (fish/day) and the projected number of days* the recreational red snapper season would be open during 2024 for the various recreational ACL alternatives considered under Action 1. These results were generated from four different landings options (2021, 2022, preliminary 2023, and an average of 2021 through preliminary 2023).

Landings	Daily Catch Rate	Alternative 1 (No Action): 29,656 Fish*	Alternatives 2 & 3: 0 Fish*	Preferred Alternative 4: 21,167 Fish*	Alternative 5: 21,167 Fish* (If 3 days or less, then =0)
2021 Landings	13,023 Fish/Day	2 Days	0 Days	1 Day	0 Days
2022 Landings	9,738 Fish/Day	3 Days	0 Days	2 Days	0 Days
Preliminary 2023 Landings	16,787 Fish/Day	1 Day	0 Days	1 Days	0 Days
Average 2021, 2022, and Preliminary 2023 Landings	13,183 Fish/Day	2 Days	0 Days	1 Day	0 Days

*The projected number of days the recreational red snapper season would be open for the various recreational ACLs under Action 1 are shown in complete whole days to avoid exceeding the ACL. While the average landings projects partial days, NMFS has determined that it is not reasonable to round up a partial day into a whole day because it is likely the ACL for that alternative would be exceeded. Table C-6 in Appendix C shows the projected number of whole and partial days the recreational season could be open, before rounding down to the nearest whole day.

Commercial Season Length

A catch limit analysis was conducted to project the commercial season length for 2024 under **Alternative 1 (No Action)** and **Alternatives 3 through 5** (Appendix C). Commercial landings data from 2019 to 2023 were used to determine the daily catch rate for the commercial sector (data for 2023 are considered preliminary but are appropriate for use here). The daily catch rates in the commercial sector average less than 3,000 lbs ww of red snapper during July and August, with a similar magnitude for daily catch rates if the season reopens.

Table 4.1.2. Estimated 2024 closure dates for the various commercial ACL alternatives. The closure dates were determined by assuming the commercial sector opens on July 8.

Alternative	Commercial ACL (lbs ww)	Projected Closure Date	Total number of days open
Alternative 1: (No Action)	124,815	2-Sep	56
Alternative 2	0	NO SEASON	0
Alternative 3	85,268	12-Aug	35
Preferred Alternative 4	85,268	12-Aug	35
Alternative 5	85,268	12-Aug	35

Source: SEFSC Commercial ACL file (September 18, 2023).

Amendment 28 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (SAFMC 2013a) established that the start of the commercial season begins on the second Monday in July each year. The projected landings for each month were used to predict the dates when the commercial ACL would be met for each alternative. Based on the current commercial ACL (124,815 lbs ww), the commercial season is expected to close on September 2, 2024 (56-day season) under **Alternative 1 (No Action)** (Table 4.1.2). Commercial harvest for 2024 would be prohibited under **Alternative 2**. Under **Alternatives 3, 4 (Preferred)**, and **5**, the commercial ACL would be 85,268 lbs ww, and the commercial season is projected to close on August 12, 2024 (35-day season) (**Table 4.1.2**).

Expected effects to co-occurring species, bycatch, and discards

Red snapper are often harvested incidentally when fishing for other snapper-grouper species, such as vermilion snapper, gray triggerfish, red porgy, and black sea bass (Appendix D, Table D-3). Across most of the snapper-grouper species, including red snapper, the magnitude of private recreational mode discards is much higher compared to the headboat or charter modes (Appendix D, Table D-5). Recreational discards of several snapper-grouper species are higher than the landings for certain modes of fishing (Appendix D, Table D-9). Black sea bass, gag, mutton snapper, red snapper, red grouper, and tomtate discards are much higher than their landings across all modes. Red snapper recreational discards to landings ratios are 1,890% in the headboat component, 1,542% in the charter component, and 762% in the private recreational

component (Appendix D, Table D-9). During the open seasons, there is likely more effort and targeting of red snapper on fishing trips, particularly for the recreational sector during mini-seasons, and particularly off the east coast of Florida. Also, since there is a one-fish bag limit for the recreational sector during the open season, and no minimum size limit, fishermen have also reported “high grading,” which means discarding of smaller fish as larger fish are caught. Therefore, with a closed recreational 2024 season, **Alternatives 2, 3, and 5** could result in less trips targeting red snapper, which could temporarily reduce discards in 2024. However, this sector is likely to continue fishing for other snapper-grouper species regardless of whether red snapper retention is reduced or allowed, and red snapper caught out of season would need to be discarded. Overall, compared to a two-day recreational season under **Alternative 1 (No Action)** ¹⁵, **Preferred Alternative 4** would only be reduced by one day, and by two days under **Alternatives 2, 3, and 5**. It is possible that a recreational closure in 2024 would likely change these days to “normal” fishing days in which recreational fishermen would not target red snapper. Therefore, any reductions in discard mortality during 2024 could be expected to result in temporary positive biological benefits.

Red snapper can be found in depths of 33-623 feet, and release mortality rates for red snapper range from 22-32%, depending on the sector and depth (Appendix D, Table D-10). High discard rates have adverse effects to the red snapper stock when the fish do not survive after being returned to the water. There is a 75-lbs gutted weight (gw) trip limit and no minimum size limit for the commercial sector. Of the four discard codes, “out of season” was the most common reason selected for discarded red snapper based on self-reported commercial discards (Appendix D, Table D-4). Therefore, **Alternative 1 (No Action)**, and **Alternatives 3, 4 (Preferred)**, and **5** could result in less “out of season” discards because the commercial season would be open, compared to **Alternative 2**. **Alternatives 3, 4 (Preferred)**, and **5** are unlikely to result in a substantial change in bycatch for the commercial sector.

Alternative 1 (No action) would retain the current ACLs and the current level of bycatch would continue. Compared to the status quo, **Alternatives 2, 3, 4 (Preferred)**, and **5** would reduce or prohibit red snapper harvest in 2024. Therefore, there could be an increase in discards because more fish would need to be returned to the water rather than kept, which could have indirect adverse effects to the red snapper stock. However, if there are less trips targeting red snapper during the fishing season due to a harvest prohibition or reduced catch limits, then discards could temporarily decrease in 2024 and this would reduce overfishing. Overall, there are a lack of data to determine if the alternatives in Action 1 would result in a net increase or decrease in discards during 2024; therefore, potential biological effects from discarded fish cannot be depicted quantitatively (Appendix D, BPA).

Expected Effects to Protected Species and Essential Fish Habitat

No increase in fishing effort is expected from this interim measure. Therefore, there are likely to be no additional negative effects to protected species. Positive effects, if experienced, would be expected to be minimal.

¹⁵ Using the Average 2021, 2022, and Preliminary 2023 Landings from Table 4.1.1.

Non-longline hook-and-line gear is predominantly used to harvest red snapper by the commercial and recreational sectors. No adverse effects on essential fish habitat (EFH), EFH-Habitat Areas of Particular Concern (HAPC), or Coral HAPCs are anticipated.

4.1.2. Economic Effects

In general, ACLs that allow fewer fish to be landed can result in decreased net economic benefits. The revised ACLs being considered for **Alternatives 2-5** would be constraining on harvest, and are projected to reduce landings of red snapper for both the commercial and recreational sectors. As such, a reduction in net economic benefits would be expected from **Alternative 2-5**. **Alternative 1 (No Action)** provides the highest ACL and thus the highest potential net economic benefits, but this alternative does not reduce overfishing as required by the Magnuson-Stevens Act. All alternatives being considered would maintain the current sector allocation of the total ACL, which is 28.07% to the commercial sector and 71.93% to the recreational sector.

Commercial Sector

As shown in Table 4.1.2.1, **Alternative 1 (No Action)** would maintain the current commercial ACL of 124,815 lbs ww or 112,446 lbs gw using a ww to gw conversion factor of 1.11. **Preferred Alternative 4**, Alternative 3, and Alternative 5 would reduce the red snapper commercial sector ACL to 85,268 lbs ww (76,818 lbs gw) for 2024. **Alternative 2** would reduce the red snapper commercial sector ACL=0 for 2024.

Table 4.1.2.1. Difference between the commercial sector ACLs in **Action 1** compared to **Alternative 1 (No Action)**.

Fishing Year	Commercial Sector ACL (lbs ww) ^{1,2}	Difference from Alternative 1 (No Action) (lbs ww) ¹	Difference from Alternative 1 (No Action) (%)
Alternative 2			
2024	0	-124,815	-100%
Alternative 3			
2024	85,268	-39,547	-24%
Preferred Alternative 4			
2024	85,268	-39,547	-24%
Alternative 5			
2024	85,268	-39,547	-24%

¹Assumes a 1.11 ww to gw conversion factor.

²Based on sector ACL included in Section 2.1.

To estimate the change in potential net economic benefits as shown in Table 4.1.2.2 for the commercial sector, the difference in the current and potential future commercial portion of the total ACL is applied to the appropriate price (\$6.88/lbs gw; Tables 3.3.1.2 and 3.3.1.3) to estimate producer surplus (PS) for the commercial sector (Section 3.3.1; Liese 2023). A further scaling factor is not applied to gross revenue in this circumstance to estimate PS since red snapper has a relatively low commercial trip limit (75 lbs gw) and makes up a relatively small portion of total revenue for vessels that land the species (Section 3.1.1). Thus, any incremental change in gross revenue occurring due to a change in landings of red snapper would equate to an equal change in PS. It is also assumed that the ex-vessel price would not change because of a change in commercial landings due to the relatively low existing landings for red snapper in the South Atlantic Region and notably higher commercial landings that originate from the Gulf of Mexico Region. Although there are no currently available estimates of the demand elasticity for red snapper in the South Atlantic Region, there is likely a high degree of substitutability of commercial red snapper landings from the Gulf of Mexico region, South Atlantic region, and imports for other species. Therefore, changes to consumer surplus (CS) from the commercial perspective are expected to be minimal. The estimated change in gross revenue represents the expected change in net economic benefits in the commercial sector.

The reduction of commercial landings under **Preferred Alternative 4** would result in a loss of revenues and net economic benefits, represented by PS, for commercial vessels. As shown in Table 4.1.2.2, when compared to **Alternative 1 (No Action)**, **Preferred Alternative 4** would result in an estimated decrease in PS of \$272,083 in the 2024 fishing year (2022\$). The reduction of landings under **Alternative 3** or **Alternative 5** would also result in a PS of \$272,083 in the 2024 fishing year. When compared to **Alternative 1 (No Action)**, **Alternative 2** would result in an estimated decrease in PS of \$858,727 in the 2024 fishing year (2022). These estimated changes in net economic benefits are a total for all vessels combined.

Table 4.1.2.2. Estimated change in net economic benefits for the commercial sector (PS) from the alternatives in **Action 1** compared to **Alternative 1 (No Action)** (2022 \$).

Fishing Year	Alternative 2	Alternative 3	Preferred Alternative 4	Alternative 5
2024	-\$858,727	-\$272,083	-\$272,083	-\$272,083

Estimates of net revenues or economic profit are not available for snapper-grouper dealers. Therefore, it is not possible to quantitatively estimate the effect of changes in purchases on their profits. However, in general, dealers are indirectly affected whenever gross revenues to commercial fishing vessels are expected to change (e.g., increases in gross revenues are expected to indirectly benefit dealers and vice versa). Thus, the directionality of economic benefits to dealers would be the same as stated above and would be expected to decrease because of **Alternatives 2-5**. Since red snapper make up approximately 2% of total purchases by dealers, indicating that there is a low financial dependency on red snapper landings, the expected change in net economic benefits to most dealers is expected to be minimal (Section 3.3.1).

Recreational Sector

As shown in Table 4.1.2.3, **Alternative 1 (No Action)** would maintain the current recreational sector ACL of 29,656 fish. **Preferred Alternative 4** would result in a recreational sector ACL=21,617 fish, or a reduction of 27% from **Alternative 1 (No Action)**. **Alternatives 2 and 3**

would result in a recreational sector ACL=0. **Alternative 5** would result in a recreational ACL of 21,617 fish if the projected recreational fishing season were determined by the NMFS to be more than 3 days. If the projected recreational fishing season is determined by the NMFS to be three days or less, then **Alternative 5** would also result in a recreational sector ACL=0.

Table 4.1.2.3. Difference between the recreational sector ACLs in **Action 1** compared to **Alternative 1 (No Action)**.

Fishing Year	Recreational Sector ACL (# of fish) ¹	Difference from Alternative 1 (No Action) (# of fish)	Difference from Alternative 1 (No Action) (%)
Alternative 2			
2024	0	-29,656	-100%
Alternative 3			
2024	0	-29,656	-100%
Preferred Alternative 4			
2024	21,617	-8,039	-27%
Alternative 5			
2024	0	-29,656	-100%

¹ Based on sector ACL included in Section 2.1.

As shown in Table 1.4.1, the average daily catch rate of red snapper from 2021-2023 is estimated to be 13,183 fish per day. Therefore, the projected number days for the 2024 recreational South Atlantic red snapper season is estimated to be less than 3 given the ACL set forth under **Alternatives 2-5**. Under **Alternative 5**, the recreational fishing season would not open for the 2024-fishing year.

The reduction of potential landings under **Preferred Alternative 4** would result in a loss in CS for recreational anglers. As shown in Table 4.1.2.4, **Preferred Alternative 4** would result in an estimated decrease in CS of \$641,191 in the 2024 fishing year (2022 \$) when compared to **Alternative 1 (No Action)**. The removal of potential landings under **Alternative 2, 3, or 5** would result in a loss in CS for recreational anglers. As shown in Table 4.1.2.4, when compared to **Alternative 1 (No Action)**, **Alternative 2, 3, or 5** would result in an estimated decrease in CS of \$2,365,415 in the 2024 fishing year (2022 \$).

To estimate the change in net economic benefits for the recreational sector, a CS estimate of \$79.76 for the second red snapper kept on a recreational trip is used (2022\$; Section 3.3.2). This CS estimate is closest to the current retention limit of one fish per person when the season is open. It is assumed that changes in the recreational portion of the total ACL would mainly affect overall harvest of red snapper and not markedly change overall annual effort (i.e., the number of angler trips taken each year) in the South Atlantic region. This assumption is based on the relatively short existing open harvest season for red snapper, and many potential substitute target species that are available in July when the recreational red snapper season would be open. While it is feasible that there could be some level of reduction in the number of recreational trips, the existing recreational season for red snapper is highly limited and would be reduced to 2 days at

most with the status quo using the average of 2021, 2022 and preliminary 2023 landings scenario. Additionally, there is a great deal of uncertainty in existing recreational effort data targeting red snapper during the short open harvest season. In most recent years, target trip estimates for red snapper as provided by the Marine Recreational Information Program are accompanied by percent standard error estimates that are above 50, indicating that these estimates are very imprecise.

As such, the economic effects of a potential change in total recreational effort is not quantified. This includes any quantified change in recreational effort on board for-hire fishing vessels. Thus, there is no quantified change in PS provided for the for-hire component of the recreational sector. Although there is not an estimate available for a potential change in PS, there is the possibility that angler demand for for-hire trips would somewhat decrease if the open season for red snapper is reduced as a result of a decreased ACL, resulting in lower booking rates and for-hire business net operating revenue. Thus, reducing the recreational ACL for red snapper would likely reduce net economic benefits for the for-hire component of the recreational sector. Any reduction in net economic benefits is expected to be minimal for most for-hire vessels given the short existing season for red snapper under the current ACL in addition to the opportunity for anglers on board for-hire vessels to target many other species.

Table 4.1.2.4. Estimated change in potential net economic benefits for the recreational sector (CS) from the alternatives in **Action 1** compared to **Alternative 1 (No Action)** (2022 \$).

Fishing Year	Alternative 2	Alternative 3	Preferred Alternative 4	Alternative 5
2024	-\$2,365,363	-\$2,365,363	-\$641,191	-\$2,365,363

Total Commercial and Recreational Net Benefits

In comparison to **Alternative 1 (No Action)**, **Preferred Alternative 4** would decrease net economic benefits by \$913,274 in the 2024 fishing year (2022 \$). In comparison to **Alternative 1 (No Action)**, **Alternative 2** would decrease net economic benefits by \$3,224,090 in the 2024 fishing year (2022 \$). In comparison to **Alternative 1 (No Action)**, **Alternative 3** and **Alternative 5** would decrease net economic benefits by \$2,637,446 in the 2024 fishing year (2022 \$).

Table 4.1.2.5. Estimated change in potential net economic benefits for the recreational sector (CS) and commercial sector (PS) from the alternatives in Action 1 compared to Alternative 1 (No Action)(2022 \$).

Fishing Year	Alternative 2	Alternative 3	Preferred Alternative 4	Alternative 5
2024	-\$3,224,090	-\$2,637,446	-\$913,274	-\$2,637,446

4.1.3. Social Effects

Closing or reducing the harvest of any stock for a fishing season could negatively impact the commercial, for-hire, and private recreational sectors and result in direct and indirect social effects in the current season. This can induce other indirect effects through changes in fishing behavior or business operations, such as increased pressure on another species, or fishermen having to stop fishing altogether due to the regulatory closure. However, restrictions on harvest

contribute to sustainable management goals, and are expected to be beneficial to fishermen and communities in the long term.

This interim measure would reduce the total and sector ACLs for red snapper during 2024, in response to the most recent stock assessment, which indicated that red snapper are overfished and experiencing overfishing. Under **Alternatives 2** through **5**, the ACL for red snapper would be based on the most recent stock assessment, is below the SSC's recommended ABC levels, and would contribute to reducing overfishing. Adjustments in an ACL based on updated information are necessary to ensure harvest remains sustainable and fishermen can continue to have access to the resource over time. **Alternative 1 (No Action)** would not update the red snapper ACL based on current information and would not provide the long-term social benefits associated with sustainable harvest through the reduction of overfishing in the 2024 fishing year. Continuing overfishing for red snapper would result in long-term negative social effects such as fishermen having to change their behavior and business operations to focus on alternative species. Red snapper is a popular species, particularly for the recreational sector, and overfishing and subsequent lower catches may affect how often private and for-hire anglers choose to go fishing offshore to target red snapper.

Alternative 2 would set the ACL for red snapper equal to zero for both sectors, closing red snapper to commercial and recreational harvest in 2024. The absence of a fishing season for red snapper in past years was highly controversial with negative effects on private recreational fishermen, for-hire businesses, and commercial vessels, especially when compared to the benefits to fishermen during the allowed open seasons. Similarly, **Alternative 3** would set the ACL for red snapper equal to zero for the recreational sector in 2024; however, a reduced harvest would be allowed for the commercial sector. The absence of a season for the recreational sector, but not the commercial sector, is likely to be controversial and result in an increased negative perception of management by the recreational sector. **Alternatives 3** through **5** include reduced ACLs that are based on total ACL levels recommended by the SSC including the commercial sector ACL in **Alternative 3** and both sector ACLs in **Preferred Alternative 4** and **Alternative 5**. **Alternative 5** includes the condition that, if the projected recreational fishing season is determined to be three days or less, then it would not open for that fishing year. Therefore, it is projected that **Alternative 5** would have a recreational season of zero days.

Commercial and recreational landings are estimated to vary year by year, but projections show that both the commercial and recreational sectors are likely to experience closures and short seasons, respectively, under all proposed alternatives except **Alternative 2**, which would close the red snapper year-round to both sectors and **Alternatives 3** and **5**, which would close red snapper year-round to the recreational sector (Appendix C.2). There would likely be some negative effects on private recreational fishermen and commercial and for-hire businesses that target red snapper under **Alternatives 2** through **5**. However, commercial and recreational fishing for red snapper has been heavily restricted due to the stocks' overfished status. As a result, fishermen have likely adjusted some operational aspects of their businesses. Additionally, private recreational fishermen have likely adjusted their targeting behavior to rely on alternative species.

An additional concern with the short recreational season likely under **Alternative 1 (No Action)** and **Preferred Alternative 4** is safety at sea. Stakeholders have expressed frustration with

crowded boat ramps and reefs during the limited recreational red snapper season, making conditions potentially hazardous for boaters. Additionally, shorter seasons may result in anglers choosing to fish in dangerous conditions. Some Council members, U.S. Coast Guard representatives, and recreational fishermen have expressed concern for stakeholders' safety at-sea during short, derby style fishing seasons. A severely limited fishing window may result in a massive influx of boaters on the water despite the weather and condition of the vessels, as was reported during 2022. Dangerous conditions can result in vessels taking on water or sinking. A closure for red snapper under **Alternative 2** and for the recreational sector specifically under **Alternatives 3** and **5** would likely contribute to safer conditions at sea during 2024.

However, to possibly alleviate some of these concerns during a one day recreational season, NMFS has determined a change to 50 C.F.R. § 622.183(b)(5)(ii) is needed for the 2024 recreational red snapper season. This change would allow the NMFS Southeast Regional Office Regional Administrator (RA) to modify the opening and closing dates of the recreational season if a small craft advisory exists, or is expected to exist, in the South Atlantic exclusive economic zone (EEZ). Previous authority (such as under **Alternative 1 (No Action)**) only allows the modification of the opening and closing dates for tropical storm or hurricane conditions. The ability to delay the opening of the recreational season due to adverse weather including a small craft advisory or worse, is expected to reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions and reduce adverse effects from safety at sea concerns under **Preferred Alternative 4**. Although, if for-hire businesses have booked trips in advance, delaying the season opening could negatively impact those businesses and for-hire passengers with reservations for the day of the opening, especially if the adverse weather and small craft advisory exists for a different portion of the South Atlantic EEZ and wouldn't have otherwise impacted the area. Some for-hire passengers may have booked travel and hotel reservations to the area to fish for red snapper specifically and could be negatively impacted by the delayed season opening. In addition, private anglers could be impacted in a similar manner if they must change their plans due to a rescheduled season resulting from adverse weather in another part of the South Atlantic.

In addition to the social effects associated with restricted access to the red snapper resource for 2024, **Alternatives 2** through **Alternative 5** are expected to result in increased distrust in science and management due to inconsistency in what fishermen see on the water versus the scientific models.

Social effects on the commercial sector are most likely to be felt in the communities of Cocoa and Port Orange, Florida, which together account for 27% of red snapper landings (Section 3.4). Morehead City, North Carolina, may also be affected as it also experiences comparatively high commercial landings of red snapper and is highly engaged in commercial fishing. Communities in Florida are likely to see the biggest effects from restrictions to the recreational sector as 62.4% of red snapper landings occur within the state (followed by Georgia, South Carolina, and North Carolina). The Florida Keys see a high level of recreational engagement and reliance, particularly Islamorada and Tavernier, Florida. The towns of Hatteras and Manteo, North Carolina, are also highly reliant on recreational fishing and may experience negative social effects because of the proposed red snapper harvest closure or reduction in 2024.

Among the action alternatives, **Preferred Alternative 4** would be the most beneficial for recreational fishermen, followed by **Alternative 5**, **Alternative 2**, and **Alternative 3**. **Alternatives 3** through **5**, which are equal in commercial ACL and the projected total number of days open for the commercial sector, would be the most beneficial for commercial fishermen, followed by **Alternative 2**.

4.1.4. Administrative Effects

Compared to **Alternative 1 (No Action)**, reducing the total and sector ACLs for red snapper under **Alternatives 2** through **5**, including **Preferred Alternative 4**, would not have substantial effects on the administrative environment. **Alternatives 2** through **5**, including **Preferred Alternative 4**, would require development and dissemination of outreach and education materials for fishery participants and law enforcement and an in-season announcement of the seasons for both sectors.

The alternatives would also affect safety at sea concerns. Each year, NMFS determines the fishing season length for the recreational sector based on catch rates in previous years. In regards to the burden on law enforcement, reducing the length of the recreational season could affect the safety of fishermen at sea associated with a very short, derby-style recreational fishing season as discussed in Section 1.3. NMFS has projected the commercial and recreational season lengths for 2024 based on the current ACLs and reductions in the current ACLs (Appendix C, Tables C-2 and C-6). Based on recent recreational season lengths and catch rates using the average of 2021, 2022 and preliminary 2023 landings scenario, the current 2024 recreational season length is projected to be two days under **Alternative 1 (No Action)**, and one day under **Preferred Alternative 4** (Table 4.1.1). Both of these alternatives would still create safety-at-sea conditions associated with a very short, derby-style recreational fishing season. **Alternatives 2, 3** and **5** (if the season was projected to be three days or less) would close harvest of red snapper by the recreational sector and could reduce safety-at-sea concerns. Therefore, shortening the length of a recreational season, for example from two days to one day with **Preferred Alternative 4**, could exacerbate safety at sea issues and result in more fishermen choosing to fish in adverse weather conditions. However, setting the recreational season to zero days under **Alternatives 2, 3**, and **5**, would eliminate fishermen from going out in adverse weather conditions to fish for red snapper, but it would result in foregone fishing opportunities.

Additionally, there would be positive administrative impacts because the burden on law enforcement would decrease when the recreational sector is closed, and due to reduced costs for monitoring the short, recreational fishing seasons, as specialized surveys (such as the Recreational Effort, Catch and Biological Sampling survey done by the Florida Fish and Wildlife Commission, each year), would not be required. Overall, **Alternatives 2, 3** and **5** would have the least burden on law enforcement, followed by **Alternative 1 (No Action)**, and **Preferred Alternative 4** with the highest burden on law enforcement and the administrative environment, especially in the situation in which the one day season was changed due to adverse weather conditions.

To reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions, NMFS is proposing changes to 50 C.F.R. § 622.183(b)(5)(ii). This change would allow the RA to modify the opening and closing dates of the recreational fishing

season if a small craft advisory exists in the South Atlantic EEZ, or is projected to exist. This proposed action would help minimize the adverse effects to fishermen's safety from a short recreational season.

Chapter 5. Cumulative Effects

5.1. 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 (South Atlantic exclusive economic zone [EEZ]), 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 the Council's Volume II of the Fishery Ecosystem Plan (SAFMC 2009).¹⁶ For the proposed action, the cumulative effects analysis includes an analysis of data from 2018 through the present.

5.2. Past, Present, and Reasonably Foreseeable Actions Impacting the Affected Area

Past Actions

Amendment 36 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP), effective on July 31, 2017, was implemented to establish new spawning special management zones 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.

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 EEZ off the South Atlantic.

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

¹⁶ <https://safmc.net/fishery-management-plans/habitat/>

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.

Vision Blueprint Commercial 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.

Vision Blueprint Recreational 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, in order to improve survivorship of released fish.

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. With this requirement removed, red snapper harvest could be open for either recreational or commercial harvest for fewer than four days.

Amendment 39 to the Snapper-Grouper FMP, effective September 1, 2020 (corrected January 4, 2021), modified reporting requirements for federally-permitted charter vessels and headboats in the snapper-grouper, dolphin wahoo, and coastal migratory pelagics (mackerel and cobia) fisheries.

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.

Amendment 50 to the Snapper-Grouper FMP, effective January 19, 2023, addressed the results of the latest stock assessment for the red porgy stock in the South Atlantic region. Red porgy are overfished and overfishing is occurring. The amendment established a rebuilding plan and adjusted catch levels and management measures to end overfishing.

Amendment 53 to the Snapper-Grouper FMP, effective October 23, 2023, addressed 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. The amendment established a rebuilding plan and adjusted catch levels and management measures to end overfishing.

Amendment 49 to the Snapper-grouper FMP, effective October 26, 2023, (correcting January 3, 2024) addressed the results of the latest stock assessment for the greater amberjack stock in the South Atlantic region. The South Atlantic greater amberjack stock is not overfished and overfishing is not occurring. Management measures adjusted trip and size limits and the April spawning closure for greater amberjack. The plan amendment also removed recreational annual catch targets for snapper-grouper species, which were not actively being used in the management of species under the Snapper-Grouper FMP.

Amendment 52 to the Snapper-Grouper FMP, effective December 7, 2023, responded to the latest stock assessment for golden tilefish. Golden tilefish are not overfished and overfishing is not occurring. The amendment also responds to increased recreational effort on blueline tilefish by adjusting the recreational bag limit for blueline tilefish and modifying recreational accountability measures.

Amendment 51 to the Snapper-Grouper FMP, effective January 2, 2024, addressed 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. The stock assessment indicated adequate progress was being made under the existing rebuilding plan, and the amendment adjusted management measures to end overfishing.

Comprehensive Acceptable Biological Catch (ABC) Control Rule Amendment (Amendment 45 to the Snapper-Grouper FMP), effective February 2, 2024, modified the ABC Control Rule, specified an approach for determining the acceptable risk of overfishing and the probability of rebuilding success for overfished stocks, allowed phase-in of ABC changes, and allowed carry-over of unharvested catch.

Present Actions

Amendment 48 to the Snapper-Grouper FMP is being developed modernize the wreckfish Individual Transferable Quota program, which will be addressed in this amendment. Actions would move away from a paper coupon-based program to an electronic program; fishing season and spawning closure; cost recovery; wreckfish permit requirement; allocation issues; offloading sites and times; and vessel monitoring system requirements.

Reasonably Foreseeable Future Actions

Regulatory Amendment 36 to the Snapper-Grouper FMP proposes actions to modify the recreational vessel limit for South Atlantic gag and black grouper and address on-demand gear for the commercial black sea bass pot component of the snapper-grouper fishery.

Amendment 46 to the Snapper-Grouper FMP is being developed to establish a private recreational permit and education component for the South Atlantic snapper-grouper fishery.

Amendment 55 to the Snapper-Grouper FMP would respond to the latest stock assessment for scamp, and establish a scamp/yellowmouth grouper complex, remove yellowmouth grouper from the shallow water grouper (SWG) complex, establish catch levels and sector allocations for the new complex, and adjust catch levels and sector allocations for the SWG complex.

Amendment 56 to the Snapper-Grouper FMP would respond to the latest stock assessment for black sea bass in the South Atlantic.

Amendment 57 to the Snapper-Grouper FMP (Comprehensive Recreational For-Hire Limited Entry Amendment) would establish a limited entry for the for-hire components of the snapper-grouper, coastal migratory pelagics, and dolphin wahoo fisheries.

In early 2024, the National Marine Fisheries Service ([NMFS recommended funding for projects](#)) that would explore new, innovative approaches to better understand and reduce red snapper dead discards, and increase fishing opportunities in the South Atlantic snapper-grouper fishery. NMFS may authorize exempted fishing permits (EFP)¹⁷ for proposed research under certain circumstances (e.g. limited testing, data collection, etc.). An EFP may authorize a fishing vessel to conduct fishing activities that would otherwise be prohibited under current regulations. Some of these EFP projects are intending to test innovative management strategies to reduce effort and snapper-grouper discards, while providing a way to transfer discards into retained catch. On April 5, 2024, NMFS published the Notices of Receipt of an application for an exempted fishing permit, and requested public comments through April 22, 2024 (89 FR 23977 and 89 FR 23979). The intent of NMFS funding these projects is a crucial part of a multiple-part plan to improve management of red snapper and other snapper-grouper species. Part of the plan is being led by the Council to perform a Management Strategy Evaluation (MSE) of the snapper-grouper fishery. Management Strategy Evaluations are intended to allow scientists and managers to evaluate and test various management strategies to determine how best they will perform and meet management goals in a more holistic manner. The Council intends for the MSE for the snapper-grouper fishery to be followed by an amendment to the Snapper-Grouper FMP that would include Council actions based on the MSE and the most current scientific information available at that time. In addition, the South Atlantic Red Snapper Research Program (SARSRP) is being conducted to produce an independent estimate of the population size of red snapper aged two years and older from North Carolina to Florida. This study will help inform the next stock assessment for red snapper, which is expected to begin in 2024 (SEDAR 90).

Expected Impacts from Past, Present, and Future Actions

The intent of the interim measure is to reduce overfishing of South Atlantic red snapper. The proposed action is not expected to result in significant cumulative adverse biological, social, or economic effects (see Chapter 4). In recent years, participants in the snapper-grouper fishery and associated businesses have experienced some negative economic and social impacts due to changes in ACLs and early closures during the fishing years. Factors such as distance to fishing grounds, weather, and water temperature affect availability of species to the recreational fleet in different parts of the Council's jurisdiction.

¹⁷ Information on EFPs can be found in the Code of Federal Regulations at [50 C.F.R. § 600.745\(b\)](#), and on the NMFS Southeast Regional Office [EFP webpage](#).

The proposed interim measure would reduce overfishing and support the current rebuilding plan in place, but it is a temporary action. The Council received notification from NMFS in July 2021 of the status of the red snapper stock in the South Atlantic and that overfishing was occurring. Yet to date, the Council has failed to develop and submit an action to NMFS under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to end the overfishing of red snapper. Because the Council has failed to act, NMFS will be evaluating the Magnuson-Stevens Act actions now required to end the overfishing of red snapper, including a Secretarial amendment under section 304(c)(1) of the Magnuson-Stevens Act.

When combined with the impacts of past, present, and future actions affecting the snapper-grouper fishery, minor cumulative impacts are likely to accrue. For example, there could be beneficial cumulative effects from this interim measure, in addition to future proposed actions to reduce overfishing of red snapper and snapper-grouper species. However, the action in this interim measure is not expected to result in significant cumulative adverse biological or socio-economic effects to the snapper-grouper fishery when combined with the impacts of past, present, and future actions (see Chapter 4).

5.3. Consideration of Climate Change and Other Non-Fishery Related Issues

Climate Change

Global climate changes could have significant effects on Atlantic fisheries, though the extent of these effects on the dolphin and wahoo, snapper-grouper, and golden crab fisheries is not known at this time. The Environmental Protection Agency’s climate change webpage (<https://www.epa.gov/climate-indicators/climate-change-indicators-marine-species-distribution>), and NOAA’s Office of Science and Technology climate webpage (<https://www.fisheries.noaa.gov/topic/climate-change>), 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 Sixth Assessment Report (March 20, 2023, IPCC 2022), U.S. Global Change Research Program (USGCRP)’s Fourth Climate Assessment (2018), and the Ecosystem Status Report for the U.S. South Atlantic Region (Craig et al. 2021) also provide a compilation of scientific information on climate change. 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). Rising water temperatures, ocean acidification, retreating arctic sea ice, sea level rise, high-tide flooding, coastal erosion, higher

storm surge, and heavier precipitation events are projected to continue, putting ocean and marine species at risk, decreasing the productivity of certain fisheries, and threatening communities that rely on marine ecosystems for livelihoods and recreation (USGCRP 2018). 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 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 2022). Free et al. (2019) investigated the impacts of historical warming on marine fisheries production and found that climate change is altering habitats for marine fishes and invertebrates, but the net effect of these changes on potential food production is unknown.

Climate driven movement of fish stocks is causing commercial, small-scale, artisanal, and recreational fishing activities to shift poleward and diversify harvests (IPCC 2022). In the South Atlantic Region, species richness and abundance of offshore hard bottom reef fishes have generally declined over time while richness and abundance of demersal fishes in soft sediment habitats on the nearshore shelf have increased. Potential explanations for these patterns include changes in harvest (directed and bycatch), trophic interactions, and environment effects on recruitment (Craig et al. 2021). Climate change may impact dolphin and wahoo, snapper-grouper species, and golden crab 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. For example, public comments stating the lack of large dolphin in the Florida Keys may have to do with the fish moving out of the area in search of suitable temperature and food availability. Studies have shown that seasonal abundance of dolphin along the east coast of the U.S. and Gulf of Mexico is heavily influenced by sea surface temperature and distance to temperature fronts, chlorophyll-*a* concentration, and *Sargassum* mats (Kleisner 2009; Farrell et al. 2014; Merten et al. 2014). Patterns from stock assessments in the South Atlantic Region indicate biomass of most assessed species generally show declines from the 1970s through the 1990s with some species showing signs of recovery beginning in the early to mid-2000s. Recruitment of a number of snapper-grouper species has declined since the early 2010s whereas recruitment of red snapper and some pelagic species has increased in recent years (Craig et al. 2021). In the near term, it is unlikely that the actions in this interim measure would compound or exacerbate the ongoing effects of climate change on dolphin and wahoo, snapper-grouper species, and golden crab.

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 have reduced income or go out of business if a hurricane strikes.

5.4. Overall Impacts Expected from Past, Present, and Future Actions

The proposed interim measure is 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 action in this interim measure, in combination with past, present, and future actions have been determined to be significant. Although several other management actions, in addition to this interim measure, 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 EEZ off the South Atlantic. 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 EEZ off the South Atlantic. 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.

5.5. 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). NMFS 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 6. List of Interdisciplinary Plan Team (IPT) Members

Name	Division	Role
Mary Vara	SERO/SF	IPT Lead/Fishery Biologist
Rick DeVictor	SERO/SF	South Atlantic Branch Chief
Frank Helies	SERO/SF	Fishery Biologist
Nikhil Mehta	SERO/SF	Fishery Biologist/NEPA
Karla Gore	SERO/SF	Fishery Biologist
Michael Larkin	SERO/SF	Data Analyst
Dominique Lazarre	SERO/SF	Data Analyst
Mike Travis	SERO/SF	Socio-economic Branch Chief
Christina Package-Ward	SERO/SF	Social Scientist
Adam Stemle	SERO/SF	Economist
Scott Sandorf	SERO/SF	Technical Writer and Editor
David Dale	SERO/HC	Regional Essential Fish Habitat Coordinator
Jashira Torres	SERO/PR	Biologist
Jennifer Lee	SERO/PR	Biologist
Manny Antonaras	SERO/OLE	Assistant Director
Matt Walia	SERO/OLE	Compliance Liaison
Monica Smit-Brunello	NOAA GC	NOAA General Counsel
Scott Crosson	SEFSC	Economist
Kyle Shertzer	SEFSC	Biologist

NOAA=National Oceanic and Atmospheric Administration, SERO = Southeast Regional Office, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, OLE = Office of Law Enforcement, SEFSC=Southeast Fisheries Science Center, GC = General Counsel, NEPA = National Environmental Policy Act

Chapter 7. Agencies and Persons Consulted

Responsible Agencies

NMFS, Southeast Region
263 13th Avenue South
St. Petersburg, Florida 33701
727- 824-5301 (TEL)
727-824-5320 (FAX)

List of Agencies, Organizations, and Persons Consulted

North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
National Marine Fisheries Service

- Washington Office
- Southeast Regional Office
- Southeast Fisheries Science Center

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SAFMC. 2023a. Amendment 49 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Final Environmental Assessment, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2023b. Amendment 51 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Final Environmental Assessment, Initial Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2023c. Amendment 52 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Final Environmental Assessment, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2023d. Amendment 53 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Final Environmental Assessment, Initial Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2023. Comprehensive Acceptable Biological Catch Control Rule Amendment (Amendment 45 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic), Final Environmental Assessment, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

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Appendix A. Other Applicable Law

A.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. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect, with some exceptions. This interim measure, issued under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), complies with the APA.

A.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. This environmental assessment uses the best scientific information available and made a broad presentation thereof. Therefore, this document is in compliance with the IQA.

A.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. NMFS has determined that this interim measure is 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 has been 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.

A.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 proposed action and associated regulations. Therefore,

preparation of a Federalism assessment under E.O. 12612 is not necessary.

A.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.

A.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.

A.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.

A.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 Office of National Marine Sanctuaries within NOAA. The NMSA provides authority for comprehensive and coordinated conservation and management of these marine areas. The Office of National Marine Sanctuaries serves as the trustee for a network of underwater parks encompassing more than 620,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. The network includes a system of 15 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. 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 Program.

A.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. The action in this document is not expected to affect PRA.

A.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.

A.11. Public Law 99-659: Vessel Safety

Public Law 99-659 amended the Magnuson-Stevens Act to require that an 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.

In September 2022 (post Regulatory Amendment 33 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region), the U.S. Coast Guard expressed concern to NMFS SERO that, due to the severely limited window for recreational harvest of red snapper, they saw a massive influx of boaters on the water, regardless of weather or condition of their vessel. They shared detailed information on the cases and U.S. Coast Guard reactions, including information of multiple distress calls. NMFS relayed this information to the Council in December 2022 and June 2023 and is considering this information in this action.

To reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions, NMFS is proposing changes to 50 C.F.R. § 622.183(b)(5)(ii). This change would allow the RA to modify the opening and closing dates of the recreational fishing season if a small craft advisory exists in the South Atlantic exclusive economic zone, or is projected to exist. This proposed action would help minimize the adverse effects to fishermen's safety from a short recreational season.

Appendix B. Regulatory Impact Review

B.1. Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest to satisfy the obligations under Executive Order (E.O.) 12866, as amended. In conjunction with the analysis of direct and indirect effects in the “Environmental Consequences” section of this Environmental Assessment (EA), the RIR: 1) provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; 2) provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and 3) ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way. The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in E.O. 12866. This RIR analyzes the effects this regulatory action would be expected to have on the recreational and commercial sectors of the red snapper fishery.

B.2. Problems and Objectives

The problems and objectives for the proposed action are presented in Section 1.3 of this document and are incorporated herein by reference.

B.3. Description of Fisheries

A description of the commercial and recreational sectors of the red snapper portion of the snapper-grouper fishery is provided in Section 3.3 of this document and is incorporated herein by reference.

B.4. Effects of Management Measures

Action 1. Reduce the total annual catch limit and sector annual catch limits for South Atlantic red snapper.

A detailed analysis and discussion of the expected economic effects of the proposed action are included in Section 4.1.2. The following discussion summarizes the expected economic effects of the preferred alternative relative to the No Action alternative (i.e., the status quo).

In general, annual catch limits (ACL) that allow for fewer fish to be landed can result in decreased net economic benefits if harvest decreases. In the case of red snapper, the revised ACL being considered in **Preferred Alternative 4** would decrease the total ACL of red snapper

for both the commercial and recreational sectors. As such, a loss in direct net economic benefits would be expected from this alternative. This alternative would maintain the current sector allocation of the total ACL, which is 28.07% to the commercial sector and 71.93% to the recreational sector.

Commercial Sector

Preferred Alternative 4 would result in an ACL=85,268 pounds (lbs) whole weight (76,818 lbs gutted weight) for 2024. The reduction of potential landings under **Preferred Alternative 4** occurring from a reduction in the sector ACL would result in a loss of revenues and net economic benefits, represented by producer surplus (PS), for commercial vessels. When compared to **Alternative 1 (No Action)**, **Preferred Alternative 4** would result in an estimated \$272,083 loss of PS in the 2024 fishing year (2022 \$).

Estimates of net revenues or economic profit are not available for snapper-grouper dealers. Therefore, it is not possible to quantitatively estimate the effect of changes in purchases on their profits. However, in general, dealers are indirectly affected whenever gross revenues to commercial fishing vessels are expected to change (e.g., increases in gross revenues are expected to indirectly benefit dealers and vice versa). Thus, the directionality of economic benefits to dealers would be the same as stated above and would be expected to decrease because of **Preferred Alternative 4**. Since red snapper make up approximately 2% of total purchases by dealers, indicating that there is a low financial dependency on red snapper landings, the expected change in net economic benefits to most dealers is expected to be minimal.

Recreational Sector

Preferred Alternative 4 would result in recreational sector ACL (in numbers of fish) equal to 21,617. The reduction of landings under **Preferred Alternative 4** occurring from a reduction in the recreational sector ACL would result in a loss of net economic benefits, represented by consumer surplus (CS), for recreational anglers. When compared to **Alternative 1 (No Action)**, **Preferred Alternative 4** would result in an estimated decrease in CS of \$641,191 in the 2024 fishing year (2022 \$).

It is assumed that changes in the recreational portion of the total ACL would mainly affect overall harvest of red snapper and not markedly change overall annual effort (i.e., the number of angler trips taken each year) in the South Atlantic region. Further details are provided in section 4.1.2 detailing the economic effects to the recreational sector. As such, the economic effects of a potential change in total recreational effort is not quantified. This includes any quantified change in recreational effort on board for-hire fishing vessels. Thus, there is no quantified change in PS provided for the for-hire component of the recreational sector. Although there is not an estimate available for a potential change in PS, there is the possibility that angler demand for for-hire trips would somewhat decrease if the open season for red snapper is reduced as a result of a decreased ACL, resulting in lower booking rates and for-hire business net operating revenue. Thus, reducing the recreational ACL for red snapper would likely reduce net economic benefits for the for-hire component of the recreational sector. Any reduction in net economic benefits is expected to be minimal for most for-hire vessels given the short existing season for red snapper under the current ACL in addition to the opportunity for anglers on board for-hire vessels to target many other species.

Total Effect for Commercial and Recreational Sectors Combined

Net economic benefits from the recreational and commercial sectors combined from **Preferred Alternative 4** would decrease net economic benefits by \$913,274 in the 2024 fishing year (2022 \$).

Public Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources, which can be expressed as costs associated with the regulations. Costs to the private sector are discussed in the effects of management measures. Estimated public costs associated with this action are in 2022 dollars and include:

NMFS administrative costs of document preparation, meetings, and review	\$42,663
TOTAL	\$42,663

The estimate provided above does not include any law enforcement costs. Any enforcement duties associated with this action would be expected to be covered under routine enforcement costs rather than an expenditure of new funds. The estimated NMFS administrative costs directly attributable to this EA and the rulemaking process would be incurred prior to the effective date of the final interim rule implementing this action.

Net Benefits of Regulatory Action

It is important to specify the time being considered when evaluating benefits and costs according to Office of Management and Budget's Frequently Asked Questions regarding Circular A-4.¹⁸ For current purposes, the time being considered is the 2024 fishing year only; therefore, net benefits and costs are not discounted for future years beyond 2024.

The analyses of the changes in economic benefits indicates a decrease of \$272,083 in net economic benefits to the commercial sector, a decrease of \$641,191 in net economic benefits to the recreational sector, and a decrease in total net economic benefits of \$913,274 (2022 \$) in the 2024 fishing year. The estimated public costs resulting from the regulation are \$42,663 (2022 \$). Based on the quantified economic effects, this regulatory action is expected to decrease net economic benefits to the Nation by \$955,937 (2022\$).

Determination of Significant Regulatory Action

Pursuant to Executive Order (E.O.) 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: 1) an annual effect of \$200 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the

¹⁸ See p. 10 at <https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf>

environment, public health or safety, or state, local, territorial, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; 3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or 4) raise legal or policy issues for which centralized review would meaningfully further the President's priorities or the principles set forth in this E.O., as specifically authorized in a timely manner by the Administrator of Office of Information and Regulatory Affairs in each case. Based on the information in Section 4.1.2, the costs and benefits resulting from this regulatory action are expected to be \$955,937 and therefore are not expected to meet or exceed the \$200 million threshold. Thus, this action has been determined not to be economically significant for the purposes of E.O. 12866.

Appendix C. Data Analyses

A stock assessment was conducted in 2017 for South Atlantic red snapper (SEDAR 41), which showed the stock was overfished and experiencing overfishing. Based on the results of SEDAR 41, Amendment 43 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP) was implemented in July 2018. Amendment 43 revised the annual catch limits (ACL) to allow for harvest of red snapper in South Atlantic waters while preventing overfishing and continuing to rebuild the stock. Amendment 43 to the Snapper-Grouper FMP set the total ACL to 42,510 fish. The red snapper sector allocation ratio is 28.07% commercial and 71.93% recreational. The commercial sector ACL is 124,815 pounds whole weight (lbs ww), and the recreational sector ACL is 29,656 fish. Currently this environmental assessment for an interim rule is considering changes to the total and sector ACLs for red snappers based upon the results of the latest stock assessment (SEDAR 73 2021), using data through 2019, which indicated that red snapper continues to be overfished and is experiencing overfishing.

C.1. Commercial Sector Closure Prediction Analysis

Amendment 28 to the Snapper-Grouper FMP (SAFMC 2013a) set the start date of the commercial sector to begin on the second Monday in July. The commercial ACL is monitored during the season and the sector is closed when the ACL is reached or projected to be reached. Since 2017, the commercial sector has had various open fishing periods each year (Table C-1). From 2017 through 2023, except for 2018, the red snapper commercial sector was open for about 1-2 months (Table C-1). The commercial season was reopened during late 2018, 2021, and 2023 because the ACL was not met when the season was first open.

For this interim rule, a catch limit analysis was conducted to project the commercial season length for 2024. Commercial landings data from 2019 to 2023 were used to determine the daily catch rate for the commercial sector; data for 2023 are considered preliminary (SEFSC Commercial ACL file – September 2023)¹⁹. Landings data from the three most recent years is generally used to project closure dates, but a five-year average was used to ensure that variation in monthly landings was captured in the predicted landings values. First, the daily catch rate was determined by dividing the average landings per month by the number of days the fishing season was open per month. Then, the landings were averaged over the 5-year time period to calculate an average landings value for each month. Figure C-1 displays the commercial catch rate per day for each year from the recent time period when the commercial sector was open (2019 through 2023), and also the five-year average catch rate for each month when data were available.

¹⁹ The commercial sector ACL is set in pounds of fish because the commercial sector reports landings in weight. Therefore, weight is a more accurate representation of commercial landings. For this commercial sector analysis one red snapper is equivalent to 8.67 lbs ww (from the average of 2017-2019 weights of landings from the assessment). ACLs for the recreational sector are specified in numbers of fish because it was determined that numbers of fish are a more reliable estimate for the recreational sector than specifying the ACL in weight of fish.

Table C-1. Dates when the South Atlantic red snapper commercial sector was open in the years of 2017 through 2023.

Year	Season Dates	Number of Open Days
2017	November 2, 2017 to December 31, 2017	60
2018	July 26, 2018 to November 7, 2018, reopened December 5, 2018 to December 15, 2018	114
2019	July 8, 2019 to August 30, 2019	53
2020	July 13, 2020 to September 5, 2020	54
2021	July 12, 2021, to September 14, 2021, reopened November 2, 2021, to November 6, 2021	68
2022	July 11, 2022, to August 31, 2022	51
2023	July 10, 2022, to August 18, 2023, reopened October 6, 2023 to October 10, 2023	43

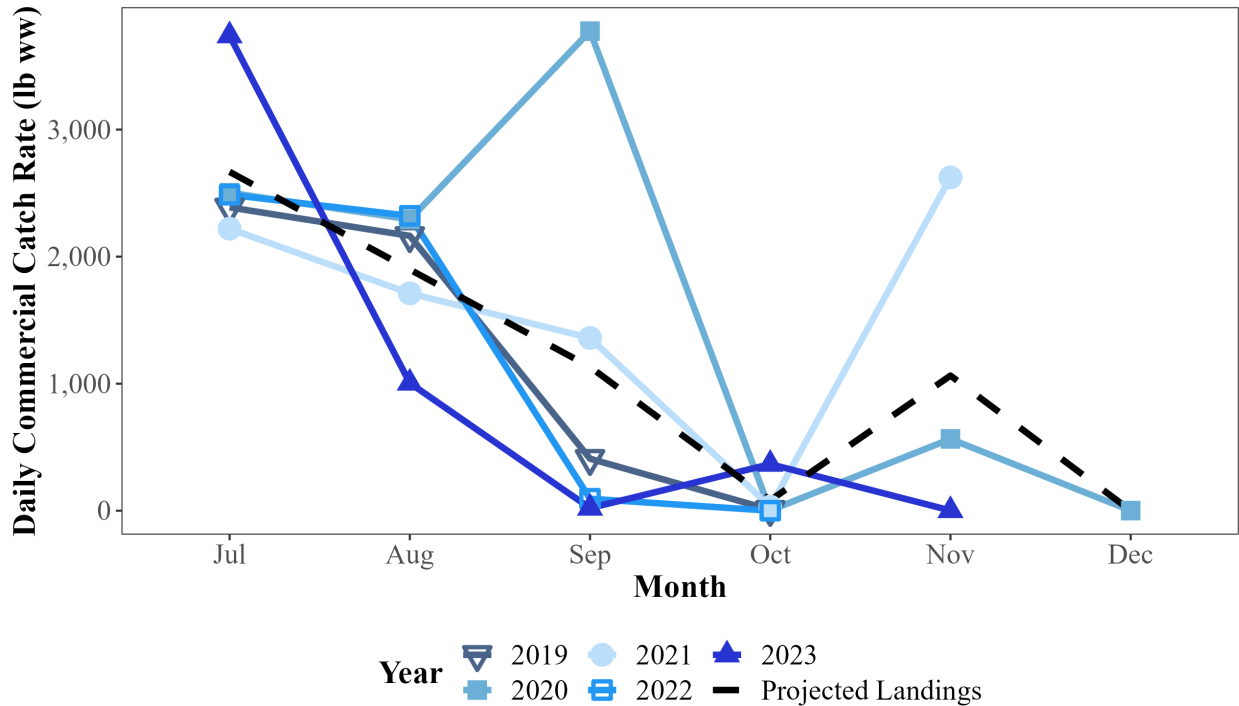


Figure C-1. South Atlantic red snapper commercial catch per day for months when the commercial sector was open in the years of 2019 through 2023. Also, a five-year (2019 through 2023) average catch rate for each month when the commercial sector was open is shown with the black dashed line (Projected Landings). The catch rate is in lbs ww.

The projected landings for each month were used to predict the dates when the commercial ACL would be met for each commercial ACL alternative proposed in the interim rule. The second Monday in July for 2024 would occur on July 8th, and was used as the start date for the commercial fishing season in this analysis. The projected daily landings rate was summed cumulatively and compared against the ACL for each alternative. Unlike the recreational sector, the commercial sector’s ACL is monitored in lbs ww. The estimated closure dates for the various commercial ACLs are shown in Table C-2.

Table C-2. Estimated closure dates for the various commercial ACL alternatives. The closure dates were determined from assuming the commercial sector opens on July 8th.

Alternative	Commercial ACL (lbs ww)	Projected Closure Date	Total number of days open
Alternative 1: (No Action)	124,815	2-Sep	56
Alternative 2	0	NO SEASON	0
Alternative 3	85,268	12-Aug	35
Preferred Alternative 4	85,268	12-Aug	35
Alternative 5	85,268	12-Aug	35

Source: SEFSC Commercial ACL file (September 18, 2023).

The daily catch rates in the commercial sector average less than 3,000 lb ww of red snapper during July and August, with similar magnitude for daily catch rates if the season reopens. For

all alternatives, the season is not projected to last more than 2 months. For proposed ACL Alternatives 3, 4, and 5, the season is projected to last slightly longer than one month.

C.2. Recreational Sector Closure Prediction Analysis

This Interim Rule has the five recreational ACL alternatives of: 29,656 fish for Alternative 1, 0 fish for Alternatives 2 and 3, and 21,167 fish for Alternatives 4 and 5. Alternative 5 includes the condition that if the projected recreational fishing season is determined by the National Marine Fisheries Service to be three days or less then the recreational fishing season will not open for that fishing year.

The recreational season is expected to be short each year due to the small ACL (29,656, 0, or 21,167 fish) and the recreational sector has shown high daily catch rates (> 9,000 fish per day). The first step in specifying the future red snapper recreational fishing season is an analysis of past landings. The red snapper recreational sector was open in July 2021, 2022, and 2023. Due to potential changes to stock size over time and the limited historical data from the month of July due to the short season each year, this analysis only uses July 2021, 2022, and preliminary 2023 data as a proxy for future landings.

Table C-3. Dates when the South Atlantic red snapper recreational sector was open in the years of 2017 through 2023.

Year	Days Open During Season	Number of Open Days
2017	November 3, 4, 5, 10, 11, and 12, 2017, reopened December 8, 9, 10, 2017.	9
2018	August 10, 11, 12, 17, 18, and 19, 2018	6
2019	July 12, 13, 14, 19 and 20, 2019	5
2020	July 10, 11, 12, and 17, 2020	4
2021	July 9, 10, and 11, 2021	3
2022	July 8 and 9, 2022	2
2023	July 14 and 15, 2023	2

Application of data obtained from the Marine Recreational Information Program (MRIP) for analysis is limited because the MRIP survey provides two-month (rather than daily or monthly) estimates of recreational landings, and is therefore not set up to generate landings estimates for such short red snapper recreational fishing seasons. To overcome this MRIP survey limitation, the South Atlantic states (North Carolina, South Carolina, Georgia, and Florida) conducted their own state-specific red snapper surveys during the South Atlantic red snapper recreational season in 2021, 2022, and 2023. A red snapper mini-season ad-hoc group consisting of NMFS and state employees who were involved with the MRIP and individual state red snapper surveys was formed. The group met in 2020 to review the 2019 MRIP and state survey red snapper data (SEDAR 73-WP10), to determine the best estimates to use to characterize the South Atlantic red snapper recreational landings for the upcoming stock assessment. The data sources (MRIP and state surveys) for the data used in this analysis were chosen following the ad-hoc group’s guidance and recommendations used in the stock assessment. The Southeast Region Headboat

Survey (SRHS) is the only survey that collects recreational landings from headboats, and the SRHS red snapper landings were also included for this analysis.

At present (March 2024), preliminary MRIP and SRHS 2023 landings are available from the Southeast Fisheries Science Center. All of the individual state-specific red snapper surveys of 2023 are also available at this time. The red snapper mini-season ad-hoc group never met to discuss the 2021, 2022, and preliminary 2023 red snapper recreational landings, because the group only met in 2020 to review the red snapper landings that were needed for the latest stock assessment, and the last year of data used for SEDAR 73 was 2019. However, this analysis applies the ad-hoc group’s recommendations to the review of the 2021, 2022, and preliminary 2023 recreational landings data.

The red snapper mini-season ad-hoc group method of choosing the recreational landings data by each state and mode is defined below. This method was followed to determine the best available scientific information to be used to determine the 2021, 2022, and preliminary 2023 recreational landings.

Method 1: Use state survey numbers if no MRIP numbers are available

Method 2: Use MRIP numbers if no state survey numbers are available

Method 3: Use the estimate/number (MRIP or state survey) that is more reliable (taking into account sample sizes, variability, and/or biases associated with the survey) when both MRIP and state survey numbers were available.

Following the method defined above, the details of the recreational survey data used to determine the future landings by state and mode are provided in Table C-4. Table C-5 provides the 2021, 2022, and preliminary 2023 landings and catch rate in numbers of fish that were generated from the red snapper mini-season ad-hoc group method.

Table C-4. The 2023 recreational surveys used to estimate the South Atlantic red snapper recreational landings for each state by mode.

Year	State	Mode		
		Charter	Private	Headboat
2023	NC	MRIP	NC Survey	SRHS
	SC	SC Survey	SC Survey	SRHS
	GA	GA Survey	MRIP	SRHS
	East FL	FL Survey	FL Survey	SRHS

Table C-5. Summary of the 2021, 2022, preliminary 2023, and average of 2021 through preliminary 2023 South Atlantic red snapper recreational landings. The landings are in numbers of fish. The catch rate was determined by dividing the July harvest by the number of days the season was open in July. In 2021 the recreational season was 3 days, the 2022 recreational season was open 2 days, and the 2023 recreational season was open 2 days.

State	2021 Landings (# of fish)	2022 Landings (# of fish)	2023 Preliminary Landings (# of fish)	Average 2021, 2022, and Preliminary 2023 Landings (# of fish)
NC	1877	48	850	925
SC	332	110	605	349
GA	807	255	2680	1,247
East FL	36,053	19,062	29,439	28,185
Total	39,069	19,475	33,574	30,706
Catch Rates (Fish per Day)				
NC	626	24	425	358
SC	111	55	303	156
GA	269	128	1,340	579
East FL	12,018	9,531	14,720	12,089
Total	13,023	9,738	16,787	13,183

Source: SERO recreational ACL file provided from the Southeast Fisheries Science Center on December 20, 2023, combined with individual state red snapper survey data provided in January of 2024.

Because the red snapper recreational fishing season opens the second Friday in July and NMFS projects the length of the recreational fishing season, future landings were only predicted for the month of July. The future July recreational landings were estimated by calculating the red snapper recreational daily catch rate from 2021, 2022, and preliminary 2023 and the average landings of 2021 through preliminary 2023 (Table C-5), and then applying the catch rate to the number of weekend days (Friday, Saturday, and Sunday) for July. Predicted landings assumed a uniform distribution of landings for each day in July. Based on the information and analyses described above, the recreational red snapper sector is predicted to meet the Alternative 1 ACL in 1.8 to 3.0 days, zero days for Alternatives 2 and 3, and 1.3 to 2.2 days for Alternatives 4 and 5 (Table C-6). There are no plans to split a day for the recreational season and the goal is to keep landings under the recreational ACL. Therefore, predicted season days to prevent an ACL overage are 1 to 3 days for Alternative 1 (No Action), 1 to 2 days for Alternatives 4, and zero days for Alternatives 2, 3, and 5.

Table C-6. Daily catch rate (fish/day) and the predicted days of the recreational season for the Interim Rule ACL Alternatives. These results were generated from four different landings options (2021, 2022, Preliminary 2023, and an average of 2021 through preliminary 2023).

Landings	Daily Catch Rate	Alternative 1 (No Action): 29,656 Fish	Alternatives 2 & 3: 0 Fish	Alternatives 4 & 5*: 21,167 Fish
2021 Landings	13,023 Fish/Day	2.3 Days	0 Days	1.7 Days
2022 Landings	9,738 Fish/Day	3.0 Days	0 Days	2.2 Days
Preliminary 2023 Landings	16,787 Fish/Day	1.8 Days	0 Days	1.3 Days
Average 2021, 2022, and Preliminary 2023 Landings	13,183 Fish/Day	2.2 Days	0 Days	1.6 Days

*Alternatives 4 & 5 are identical total and sector ACLs, however, Alternative 5 includes the condition that if the projected recreational fishing season is determined by NMFS to be three days or less then the recreational fishing season will not open for that fishing year. Therefore, Alternative 5 would have a recreational season of zero days in 2024.

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Appendix D. Bycatch Practicability Analysis (BPA)

D.1. Background

National Standard 9 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states that “Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.” The Magnuson-Stevens Act defines “bycatch”, in part, as fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards (16 U.S.C. § 1802(2)). In the Magnuson-Stevens Act National Standard 9 Guidelines, the National Marine Fisheries Service (NMFS) outlines, at 50 C.F.R. § 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.

In accordance with the guidance in 50 C.F.R. § 600.350(d)(3)(ii), NMFS intends to adhere to the precautionary approach outlined in Article 6.5 of the Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries when uncertain about these factors.

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 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.²⁰ 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.
- 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). The Southeast Region Headboat Survey, which includes limited headboat observer sampling, collects discard information from headboat vessels. Red snapper discards are also collected from a red snapper specific survey run by the Florida Fish and Wildlife Conservation Commission (FWC). The FWC only operates their red snapper specific survey when the red snapper recreational season is open. Therefore, if there is only a three-day recreational season for red snapper then the FWC survey will only collect discards during those three days. 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 federally permitted charter vessels in the Gulf of Mexico and South Atlantic. Currently, that reporting program is only applicable to federally permitted charter vessels in the South Atlantic. The purpose of this program is to provide more accurate and reliable fisheries information about for-hire catch, effort, and discards.

D.2. Population Effects for the Bycatch Species

Commercial Sector

Commercial discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders in the snapper-grouper fishery. However, in the absence of any observer data, there are concerns about the accuracy of logbook data in collecting bycatch information. Biases associated with logbooks primarily result from inaccuracy in reporting of species that are caught in large numbers or are of little economic interest (particularly of bycatch species), and from low compliance rates. A randomly selected comprehensive observer program is not currently available in the South Atlantic, thus for this action, estimation of commercial discards is reliant upon self-reported data.

Commercial discards in the South Atlantic snapper-grouper fishery are shown in Table D-1, including red snapper. 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

²⁰ More information on the discard logbook is available here <https://www.fisheries.noaa.gov/about/southeast-fisheries-science-center>.

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 lbs and discards are reported in numbers of fish.

Table D-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 2018 to 2022. Data for some gear types and for some species were not included in the table to protect confidentiality.

Stock	Handline/ Electric	Stock	Longline	Stock	Trap / Pot	Stock	Troll
Vermilion Snapper	4,514	Blueline Tilefish	155	Black Sea Bass	6,069	Black Sea Bass	236
Red Snapper	3,669	Snowy Grouper	57	Vermilion Snapper	198	Amberjacks	131
Red Porgy	2,634	Red Snapper	14	Grunts	145	Red Snapper	78
Yellowtail Snapper	1,681	Red Porgy	12	White Grunt	75	Grunts	57
Black Sea Bass	1,556	Greater Amberjack	10	Gray Triggerfish	71	King Mackerel	18
Gray Triggerfish	886	Confidential Data		Triggerfishes	64	Cobia	11
Almaco Jack	671			Red Snapper	24	Yellowtail Snapper	9
Triggerfishes	569			Red Porgy	17	Greater Amberjack	8
Blue Runner	434			Red Grouper	17	Little Tunny	6
Gray Snapper	367			Gag	13	Confidential Data	

Source: SEFSC Coastal Logbook (March 2023) and Discard Logbook (March 2023).

Red snapper contributed to a large number of overall discards in the South Atlantic region. From 2018 through 2022, the commercial sector of the South Atlantic snapper-grouper fishery had red snapper listed as the third most commonly discarded species (Table D-2).

Table D-2. Mean annual South Atlantic commercial discards for top ten snapper-grouper species from 2018 through 2022. Discards represent numbers of fish (n).

Species	Mean Discards (n)
Vermilion Snapper	27,980
Black Sea Bass	27,908
Red Snapper	23,267
Red Pogy	17,543
Yellowtail Snapper	11,169
Gray Triggerfish	5,868
Almaco Jack	4,369
Hogfish	3,933
Blue Runner	3,033
Gray Snapper	2,277

Sources: Discard estimates expanded from the SEFSC Supplemental Commercial Discard Logbook (March 2023).

Table D-3 lists the top ten species harvested on the same trips that harvested South Atlantic red snapper. The most common species being landed with red snapper in the South Atlantic were vermilion snapper, gag grouper, and gray triggerfish. These analyses are limited to co-occurrence of landings and do not contain any information on species that were discarded at-sea. Other studies have incorporated data from the Reef Fish Observer Program in the Gulf of Mexico and an independent sampling program that may provide more comprehensive analyses, but these are focused on the Gulf of Mexico and not the South Atlantic (Pulver et al. 2016).

Table D-3. The top ten species harvested on a commercial trip that harvested South Atlantic red snapper from 2018 through 2022.

Species Landed	Percent of Trips
Vermilion Snapper	23.2
Gag	20.9
Gray Triggerfish	20.3
Black Sea Bass	16.1
Red Pogy	14.9
Greater Amberjack	14.7
Scamp	11.9
Almaco Jack	8.7
Red Grouper	5.9
Snowy Grouper	4.9

Source: Southeast Fisheries Science Center Commercial Logbook (March 2023).

Of the four discard codes, regulations (i.e., out of season) was the most common reason selected for discarded red snapper based on self-reported discards (79%) (Table D-4). Out of season was also the primary driver of discards for red pogy. The minimum size limit regulation was the primary driver of commercial discards for black sea bass (100%), greater amberjack, gag, gray triggerfish, and almaco jack.

Table D-4. The percentage of unexpanded discards for each discard reason out of the total number of self-reported discards reported to the Supplemental Commercial Discard Logbook for the top ten snapper-grouper species discarded in the South Atlantic from 2018 through 2022. Some percentages may not sum to 100% due to rounding.

Species	Not Legal Size	Out of Season	Other Regulations	Market Conditions
Almaco Jack	47%	43%	5%	5%
Black Sea Bass	100%	0%	0%	0%
Blue Runner	21%	0%	28%	51%
Blueline Tilefish	2%	9%	89%	1%
Gag	72%	25%	1%	1%
Gray Triggerfish	57%	42%	1%	0%
Greater Amberjack	91%	6%	2%	1%
Red Porgy	43%	51%	4%	2%
Red Snapper	2%	79%	18%	1%
Vermilion Snapper	91%	1%	8%	0%

Source: SEFSC Supplemental Commercial Discard Logbook (March 2023)

Recreational Sector

From 2018 through 2022, the most discarded species on trips capturing a snapper-grouper species was black sea bass for two of the three modes (Table D-5). Red snapper is in the top four for all modes. The vast majority of recreational red snapper discards occur off Florida (Table D-6) during the summer months of Wave 4 (Table D-7). Discards have increased even as the length of the red snapper mini-seasons decreased over the last three years (Table D-8).

Table D-5. Top ten species with discards reported on trips capturing a snapper-grouper species in the South Atlantic by recreational mode from 2018 through 2022. Species are sorted by number of total discards for each mode from 2018-2022. Headboat values are based on unexpanded headboat logbook reports.

Rank	HEADBOAT		CHARTER		PRIVATE BOAT	
	Species	Discards (N)	Species	Discards (N)	Species	Discards (N)
1	Black Sea Bass	354,477	Black Sea Bass	884,078	Red Drum	35,852,603
2	Vermilion Snapper	350,498	Yellowtail Snapper	604,799	Black Sea Bass	28,873,282
3	Red Snapper	261,429	Red Snapper	555,294	Gray Snapper	23,400,512
4	Tomtate	215,308	Gray Snapper	419,188	Red Snapper	12,819,769
5	Gray Triggerfish	79,496	Tomtate	353,139	Yellowtail Snapper	7,263,605
6	Blue Runner	66,035	Mutton Snapper	287,594	White Grunt	7,132,700
7	Mutton Snapper	47,511	Vermilion Snapper	268,547	Tomtate	6,924,826
8	White Grunt	31,784	White Grunt	237,570	Vermilion Snapper	4,481,418
9	Red Porgy	26,086	Blue Runner	94,151	Blue Runner	3,978,980
10	Yellowtail Snapper	24,953	Gray Triggerfish	78,982	Mutton Snapper	3,854,408

Sources: MRIP FES data from SEFSC Recreational ACL Dataset (December 2023); Headboat data from SEFSC Headboat Logbook files (December 2023).

Table D-6. South Atlantic red snapper recreational total and average discards by state from 2018 through 2022.

State	Total Discards (N)	Average Discards per Year (N)
North Carolina	92,903	18,581
South Carolina	412,791	82,558
Georgia	437,322	87,464
East Florida	12,432,047	2,486,409

Source: MRIP FES data from SEFSC Recreational ACL Dataset (December 2023).

Table D-7. South Atlantic red snapper total and average recreational discards by two-month wave from 2018 through 2022. The data are a cumulative total of numbers of red snapper discards from 2018 through 2022 for each wave.

Wave	Jan-Feb (Wave 1)	Mar-Apr (Wave 2)	May-Jun (Wave 3)	Jul-Aug (Wave 4)	Sep-Oct (Wave 5)	Nov-Dec (Wave 6)
Total Discards (N)	2,770,325	1,068,214	2,734,897	5,048,176	773,535	979,916
Average Discards per Year (N)	554,065	213,643	546,979	1,009,635	154,707	195,983

Source: MRIP FES data from SEFSC Recreational ACL Dataset (December 2023).

Table D-8. Number of private boat recreational red snapper discards collected from the Florida Fish and Wildlife red snapper mini-season survey, and the length (in days) of the South Atlantic red snapper recreational season.

Year	Discards (Number of Fish)	Season Length (Days)
2017	4,331	9
2018	41,660	6
2019	56,648	5
2020	Not Available*	4
2021	54,685	3
2022	34,864	2
2023	24,273	2

Source: Data from Florida Fish and Wildlife Atlantic red snapper mini-season recreational survey.

*The survey did not collect discards in 2020 due to COVID concerns.

Recreational discards of several snapper-grouper species are higher than the landings for certain modes of fishing (Table D-9). Black sea bass, gag, mutton snapper, red snapper, red grouper, and tomtate discards are much higher than their landings across all modes. The private mode discards are over 100% for most of the snapper-grouper species. Red snapper recreational discards to landings ratios are 1,890% in the headboat component, 1,542% in the charter component, and 762% in the private recreational component (Table D-9).

Table D-9. South Atlantic snapper-grouper headboat, charter, and private mean annual estimates of landings and discards (2018-2022). Headboat and MRIP (charter and private) landings and discards are in numbers of fish. Headboat data are based on unexpanded logbook data.

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	10,647	1,662	16%	18,243	4,172	23%	88,422	245,230	277%
Black Sea Bass	33,073	325,403	984%	20,474	176,816	864%	269,012	5,774,656	2,147%
Gag	522	775	148%	1,580	5,117	324%	15,960	82,585	517%
Gray Triggerfish	29,729	18,024	61%	58,620	15,796	27%	270,036	389,552	144%
Greater Amberjack	2,111	2,073	98%	20,827	12,674	61%	33,463	69,821	209%
Mutton Snapper	3,201	9,502	297%	28,813	57,519	200%	218,945	770,882	352%
Red Grouper	316	2,084	659%	4,873	11,640	239%	47,573	161,077	339%
Red Porgy	6,834	5,913	87%	6,188	2,126	34%	68,930	40,804	59%
Red Snapper	2,766	52,286	1,890%	7,202	111,059	1,542%	336,295	2,563,954	762%
Scamp	619	480	78%	976	506	52%	2,127	3,667	172%
Snowy Grouper	2	1	42%	1,065	355	33%	2,235	2,017	90%
Tomtate	39,932	49,114	123%	17,525	70,628	403%	544,383	1,384,965	254%
Vermilion Snapper	123,796	79,506	64%	93,776	53,709	57%	496,660	896,284	180%
White Grunt	40,009	7,554	19%	20,550	47,514	231%	575,785	1,426,540	248%
Whitebone Porgy	4,095	458	11%	2,551	39	2%	28,675	4,699	16%
Yellowtail Snapper	20,121	4,991	25%	215,676	120,960	56%	1,033,437	1,452,721	141%

Sources: MRIP FES data from SEFSC Recreational ACL Dataset (December 2023); Headboat data from SEFSC Headboat Logbook files (December 2023)

D.3. 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 D-10). 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 and SEDAR 73 2021). 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). Red snapper can be found in 33-623 feet of water. A range of release mortality rates were used in the latest assessment of South Atlantic red snapper (SEDAR 73 2021). In SEDAR 73 (2021), the release mortalities varied by sector, gear, and time period. The release mortality rates for red snapper ranged from 0.22 to 0.32 (Table D-10).

Table D-10. 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	13.70%	SEDAR 56 (2018)
Black Sea Bass	Commercial Trap/Pot (2007- present)	6.80%	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	12.50%	SEDAR 41 (2016)
Greater Amberjack	Recreational & Commercial	20%	SEDAR 59 (2020)
Red Porgy	Recreational	41%	SEDAR 60 (2020)
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)
Scamp / Yellowmouth Grouper	Recreational	39%	SEDAR 68 (2021)
Scamp / Yellowmouth Grouper	Commercial	26%	SEDAR 68 (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	12.50%	SEDAR 64 (2020)

Source: SEDAR webpage (www.sedarweb.org)

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 2020b) 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 South Atlantic Fishery Management Council (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 alternatives in this interim action could temporarily increase or reduce bycatch in the snapper-grouper fishery in 2024 depending on how fishermen react to no season or a shorter season (D-3). Therefore, the ecological effects due to changes in bycatch may either be beneficial or adverse to the red snapper stock. However, these effects will be temporary. For more details on ecological effects, see Chapter 4.

D.4. Changes in the Bycatch of Other Fish Species and Resulting Population and Ecosystem Effects

The alternatives in this interim action could temporarily increase or reduce bycatch of other fish species in in 2024 depending on how fishermen react to no season or a shorter season in 2024 (Table D-3). Both sectors likely target a wide range of species other than snapper-grouper during each trip, including coastal migratory pelagic species (Table D-11). This results in a varied amount and type of bycatch of species. The top three species caught with red snapper on a commercial trip in the South Atlantic region are vermilion snapper, gag grouper, and gray triggerfish (Table D-3). For the recreational sector, it is vermilion snapper, black sea bass, and gray triggerfish (Table D-11). Any closures or reductions in directed fishing effort of South Atlantic red snapper has the potential to reduce the bycatch of these species.

Table D-11. The top ten species that are commonly caught on recreational trips that caught red snapper in the South Atlantic region. MRIP recreational landings from 2018 to 2022.

Species Landed	Percent of Trips
Vermilion Snapper	32.8%
Black Sea Bass	32.7%
Gray Triggerfish	26.8%
King Mackerel	22.2%
Tomtate	15.7%
Greater Amberjack	12.9%
Almaco Jack	12.8%
Lane Snapper	10.1%
White Grunt	9.6%
Gray Snapper	8.9%

Source: MRIP FES data from recreational trip and catch reports accessed at <https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>.

D.5. 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 hook-and-line gear components of the snapper-grouper fishery, which is primarily the gear used to catch red snapper, are determined to have remote likelihood of no known interactions with marine mammals (Category III, LOF, 89 FR 12257; February 16, 2024).

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.

D.6. Changes in Fishing, Processing, Disposal, and Marketing Costs

The alternatives proposed in this interim action 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 alternatives for action 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.

D.7. Changes in Fishing Practices and Behavior of Fishermen

The alternatives in this interim action to reduce ACLs could change fishing practices and behavior of fishermen. The reduction or prohibition of the total and sector ACLs could temporarily increase or reduce bycatch of red snapper in 2024 (D-3). However, the potential change would be for a short duration (2024 fishing season).

D.8. 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 was 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 (Amendment 54 to the Snapper-Grouper FMP, SAFMC 2024). The For-Hire Reporting Amendment (Amendment 39 to the Snapper-Grouper FMP, SAFMC 2017a) requirements were intended to improve timeliness and quality of data for the charter and headboat components of the recreational sector. Additionally, in December 2023, the Council directed staff to initiate an amendment to consider a limited entry program for the for-hire components of the snapper-grouper, dolphin wahoo, and coastal migratory pelagics fisheries. At the March 2024 Council meeting, Council staff presented information on the change in the number of commercial permits over time, and presented information considered in a past draft amendment that considered a moratorium on for-hire permits in the Snapper-Grouper fishery. The Council requested a prioritized list for Council review to their June 2024 meeting, including input from their SSC and to review the results from a recent study that used a spatial population model of red snapper to compare various fishery management strategies. The Council also intends to review an initial prioritized list of possible management actions that would reduce discards while preventing overfishing from the Management Strategy Evaluation Planning Team.

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 Program. 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. Additionally, although commercial and recreational fishing for red snapper could be reduced or prohibited under the Action 1 alternatives, NMFS is considering whether to provide exempted fishing permits (EFP) for projects that would be intended to test innovative management strategies to reduce effort and snapper-grouper discards while looking at ways to transfer discards to retained catch, and on April 5, 2024, NMFS published the Notices of Receipt of three such EFP applications and requested public comments through April 22, 2024 (89 FR 23977 and 89 FR 23979). An EFP would authorize fishing activities that would otherwise be prohibited under current regulations. Information on applying for an EFP can be found in the Code of Federal Regulations at [50 C.F.R. § 600.745\(b\)](#), and on the [SEFO EFP webpage](#).

Administration

The proposed actions are not expected to significantly impact administrative costs.

Enforcement

The proposed actions are not expected to significantly impact enforcement costs.

D.9. 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. The alternatives in this interim action could temporarily increase or decrease the current level of discards 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.

D.10.Changes in the Distribution of Benefits and Costs

The distribution of benefits and costs expected from the proposed action 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) provides additional information on changes in the distribution of benefits and costs. Overall, the interim action is not likely to substantially change the current known rate of bycatch in the red snapper recreational sector. Further, because we cannot estimate a change in target trips for red snapper or any other snapper-grouper species as a result of this action, it is not possible to examine the distribution of benefits and costs between recreational fishing modes. Any changes in the distribution of benefits and costs would be temporary since this action will only apply to the 2024 season.

D.11.Social Effects

The baseline social environment and social effects of the proposed action are described in Chapters 3 and 4, respectively. In general, fishermen become frustrated when what they perceive as a waste of the resource increases due to regulatory bycatch of target and non-target species. This often results in a distrust of science because regulations are intended to protect stocks and rebuild overfished stocks by reducing such bycatch. However, the action could temporarily increase or reduce the current level of bycatch of target or non-target species in the South Atlantic in 2024 (D-3) and thus are unlikely to result in the negative social effects described.

D.12.Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality

Expected Impacts on Bycatch for the Subject Action

Alternatives 2 through **5** in Action 1 would reduce the total and sector ACLs for red snapper for the 2024 fishing season. The regulation ‘out of season’ was the most common reason selected for commercial release of red snapper (Table D-4). For the recreational sector, the majority of discards occur off East Florida during Wave 4 (July-August) (Table D-6 and D-7). **Alternative 1 (No action)** would retain the current ACLs and the same level of bycatch would continue. Compared to the status quo, **Alternatives 2** through **5** would reduce or prohibit red snapper harvest in 2024 for one or both sectors. Therefore, there could be an increase in discards because more fish would need to be returned to the water rather than kept, which could have indirect adverse effects to the red snapper stock. However, if there are less trips targeting red snapper during the fishing season due to harvest prohibition or reduced catch limits, then discards could temporarily decrease in 2024. Overall, there are a lack of data to determine if the alternatives in

Action 1 would result in a net increase or decrease in discards during 2024; therefore, potential biological effects from discarded fish cannot be depicted quantitatively.

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 red snapper, including actions that could reduce bycatch and bycatch mortality of red snapper and other snapper-grouper species, are outlined in Sections 1.5 and 5.2. Additional 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 2008b) 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 2011b) 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 2008a); 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 the special management zone (SMZ) 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 2011a) 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 Generic Charter/Headboat Reporting Amendment (Amendment 31 to the Snapper-Grouper FMP, SAFMC 2013b) changed the reporting frequency by headboats from monthly to weekly, and required that reports be submitted electronically. The action was 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 was 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 2016a) established spawning 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. However, currently that reporting program is only applicable to federally permitted charter vessels in the South Atlantic. Additionally, in 2023, the Councils have also approved a joint amendment (Amendment 54 to the Snapper-Grouper FMP) for Secretarial Review to require that all federally permitted commercial fishing vessels in the southeast also report their logbook landings information electronically. These actions would 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 2019a) 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 2020b) required descending devices be on board all commercial, for-hire, and private recreational vessels while fishing for or possessing snapper-grouper in order to reduce discard mortality of 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.

Amendment 46 to the Snapper-Grouper FMP proposes actions to focus on private recreational permit and education requirements.

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 5 (Cumulative Effects).

D.13. Conclusion

This BPA evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality using the ten factors provided at 50 C.F.R. § 600.350(d)(3)(i). In summary, apart from the numerous management measures and reporting requirements that were intended to

improve the monitoring efforts of discards and discard mortality mentioned above, the proposed interim action could temporarily increase or reduce the current level of bycatch in the snapper-grouper fishery in 2024 (D-3).