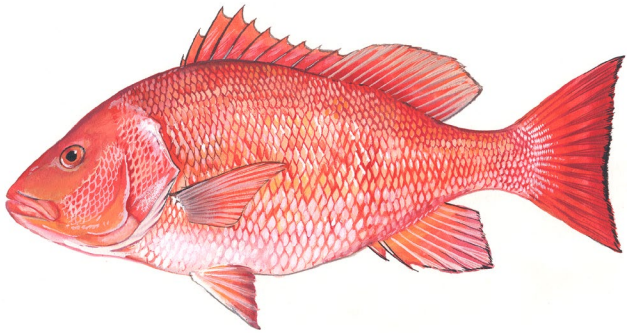
# Amendment 59 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region

Actions to implement management strategies to end overfishing of South Atlantic red snapper while also increasing fishing opportunities for landing red snapper by reducing the amount of fish released dead.



**Environmental Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Analysis**

**January 10, 2025**

# Amendment 59 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region

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| **Proposed action:** | End and prevent overfishing for red snapper by revising the fishing mortality at maximum sustainable yield proxy to determine overfishing; modifying the acceptable biological catch, reducing dead discards to increase the annual catch limits, establishing new management measures to achieve the dead discard targets, modifying the commercial trip limit, modifying the commercial and recreational fishing seasons, modifying the fishing year, and establishing an annual experimental studies program. |

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Abstract

This Draft Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act (NEPA) to assess the environmental impacts associated with a regulatory action. NMFS is proposing changes to the management of red snapper and other species in the snapper-grouper complex through Amendment 59 to the Snapper-Grouper FMP (Amendment 59), specifically, to end and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress. For South Atlantic red snapper, this DEIS analyzes the impacts of a reasonable range of alternatives intended to: revise the fishing mortality at the maximum sustainable yield proxy to determine overfishing, modify the acceptable biological catch, reduce dead discards to increase catch levels, increase the commercial trip limit, modify the commercial and recreational fishing seasons, modify the fishing year, and establish an annual experimental studies program. To achieve the red snapper dead discard reduction target, Amendment 59 would implement a discard reduction season for recreational fishermen using hook-and-line fishing gear that would apply to all species in the snapper-grouper complex.

This DEIS applies CEQ's Phase 2 NEPA regulations (effective July 1, 2024).

The Unique ID Number is: EISX-006-48-1SE-1726732992.

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# Summary

The National Marine Fisheries Service (NMFS) is proposing changes to the management of species in the snapper-grouper complex, specifically South Atlantic red snapper. The proposed changes are contained in Amendment 59 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP).

The changes are divided into the following eight actions:

**Action 1.** Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing
**Action 2.** Modify the Acceptable Biological Catch for Red Snapper
**Action 3.** Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits
**Action 4.** Establish New Management Measures to Achieve Dead Discard Targets
**Action 5.** Modify Commercial Management Measures to Further Optimize Yield
**Sub-Action 5a.** Increase the Commercial Trip Limit for Red Snapper
**Sub-Action 5b.** Modify the Commercial Fishing Season for Red Snapper
**Action 6.** Modify the Recreational Fishing Season for Red Snapper to Further Increase Fishing Opportunities/Optimize Yield
**Action 7.** Establish an Annual Experimental Studies Program
**Action 8.** Modify the Fishing Year for Red Snapper

**Background**

In 2021, a stock assessment for red snapper (Southeast Data, Assessment, and Review 73, [SEDAR 73, 2021]) indicated that red snapper remains overfished and undergoing overfishing, but the stock was making adequate progress towards rebuilding. In July 2021 NMFS sent a letter to the South Atlantic Fishery Management Council (Council) notifying the Council of the results of the stock assessment and the Magnuson-Stevens Act requirements to end overfishing. NMFS further explained at Council meetings that although the red snapper stock was rebuilding and the existing rebuilding plan did not need to be revised, the Council needed to take action to end overfishing of red snapper.

The Council developed Regulatory Amendment 35 to the Snapper-Grouper FMP (Regulatory Amendment 35) which, if implemented, would have reduced the catch levels of red snapper and specified gear requirements to reduce discards, but would not have ended overfishing. After taking final action to approve Regulatory Amendment 35 in March 2023, the Council later rescinded its final action to submit Regulatory Amendment 35 to NMFS for implementation at its December 2023 meeting, and took no further action under the Magnuson-Stevens Act to end overfishing.

As a result, on June 14, 2024, NMFS implemented temporary interim measures to reduce overfishing by reducing the catch limits for red snapper for the 2024 red snapper recreational and commercial fishing seasons pursuant to Magnuson-Stevens Act section 305(c), and these measures were effective through December 11, 2024 (89 FR 50350). Amendment 59 is

developed pursuant to section 304(c)(1)(A) of the Magnuson-Stevens Act, which provides the Secretary authority to act if a Council fails to develop and submit to the Secretary, after a reasonable period of time, needed conservation and management measures for a species. Amendment 59 is based on an update to the SEDAR 73 (2021) stock assessment, which evaluated data through 2023 (SEDAR 73 Update Assessment (2024)). 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 other snapper-grouper species that co-occur with red snapper (Shertzer et al. 2024).

The **purpose and need** for this action, consistent with the Magnuson-Stevens Act and its National Standards, is to:
End and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress.
Reduce dead discards of red snapper to provide additional opportunities for retaining red snapper and further minimize bycatch consistent with National Standard 9 (bycatch) mandates.

**Affected Environment**

*Biological*

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.

Red snapper are 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). In the South Atlantic, red snapper are most common at depths ranging from 21 to 40 m (70-130 ft) (SERFS, unpublished data). This species is generally associated with limestone outcroppings and live-bottom habitat (Powles and Barans 1980; White and Palmer 2004). Juveniles inhabit shallow waters and are common over sandy or muddy bottom habitat (Allen 1985).

*Social and Economic*

Snapper-grouper species are harvested by commercial and recreational fishermen. Any fisherman who harvests and sells any of the snapper group species, including red snapper, from the South Atlantic exclusive economic zone (EEZ) must have a valid federal South Atlantic snapper grouper commercial vessel permit. Commercial South Atlantic snapper grouper vessel

permits are a limited access permit. On average from 2019-2023, snapper grouper species accounted for 61% of total landings by permitted commercial South Atlantic snapper grouper vessels. On average from 2019-2023, snapper grouper species accounted for 74% of the total revenue by permitted commercial South Atlantic snapper grouper vessels and the average price per pounds was $4.55 (2023 dollars). Red snapper accounted for approximately 3.5% of total landings by commercial vessels harvesting South Atlantic red snapper. The average annual price per pound (lb) gutted weight (gw) for red snapper during this period was $6.95 (2023 dollars). The greatest proportion of commercial red snapper catch was landed in Florida (average of 81.3% from 2019-2023, SEFSC SEDAR 73 Update Assessment Data), followed by North Carolina (11.7%), South Carolina (5.9%), and Georgia (0.9%).

The recreational sector is composed 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. The majority of directed effort trips towards red snapper occurs by private vessels in Florida (88%), followed by South Carolina (5%). On average (2019 through 2023), Florida/Georgia accounted for the majority of headboat angler days reported, followed by South Carolina and North Carolina. The greatest proportion of recreational red snapper landings came from waters adjacent to Florida and Georgia (average of 83.4% of numbers of fish from 2019-2023, MRIP-FHS Landings Data and SRHS), followed by North Carolina (5.7%), and South Carolina (5.7%).

**Environmental Consequences**

Revise the Fishery Mortality (F) at the Maximum Sustainable Yield (MSY) ($F_{MSY}$) Proxy for Red Snapper Overfishing

Currently, $F_{30\%\text{spawning potential ratio [SPR]}}$ is the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing. $F_{30\%SPR}$ is the fishing mortality rate that corresponds with a reproductive capacity equal to 30% of the spawning potential of an unfished population (30%SPR). If current $F > F_{MSY}$ or $F_{30\%SPR,}$ then overfishing is occurring. Amendment 59 would revise the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing from a fixed $F_{30\%SPR}$ value to a more flexible definition that reflects the best scientific information available (BSIA) at the time an overfishing determination is made, such that overfishing occurs when current $F > F_{MSY}$ or a reasonable proxy, based on the best scientific information available consistent with National Standard 2 of the Magnuson-Stevens Act.

Neither **Alternative 1 (No Action)** nor **Preferred Alternative 2** of this action is expected to have negative effects on the red snapper stock; however, **Alternative 1 (No Action)** could indirectly benefit the stock by requiring more precautionary management measures be adopted to address Magnuson-Stevens Act overfishing mandates relative to **Preferred Alternative 2**, depending on the reasonable proxy that is used to make overfishing determinations under **Preferred Alternative 2**. Red snapper stock assessments have concluded that fishing mortality

has exceeded the current $F_{30\%SPR}$ $F_{MSY}$ proxy (i.e., red snapper is undergoing overfishing) almost every year since the rebuilding plan was implemented in 2010, even though stock biomass has been rebuilding to the target level in the rebuilding plan slightly ahead of schedule. Continuing to base overfishing determinations on an $F_{MSY}$ proxy of $F_{30\%SPR}$ would require additional regulatory action to reduce red snapper fishing mortality by 85% and discards by 40% (compared to the fishing mortality rate projections for 2021-2023 [$F_{2021-23)}$]) to end overfishing based on the results of the 2024 SEDAR 73 Update Assessment. Amendment 59 would apply the fishing mortality rate that maintains the rebuilding plan adopted in Amendment 17A as the $F_{MSY}$ proxy based on the results of the 2024 SEDAR 73 Update Assessment. This fishing mortality rate is equivalent to the 2021-2023 fishing mortality rate ($F_{2021-23}$) and would be used until the next assessment is completed in 2028 or sooner. Currently, the overfishing level (OFL) for South Atlantic red snapper equals 56,000 fish (landings + discards), following the SEDAR 41 stock assessment (2017). Updating that reference point consistent with an $F_{MSY}$ proxy that maintains rebuilding consistent with Amendment 17A would establish a new OFL of 551,000 fish (76,000 landings + 475,000 discards).

Acceptable Biological Catch (ABC)

The current ABC is 53,000 fish based on SEDAR 41 (2017), and includes both landings and dead discards. Amendment 59 would specify an ABC equal to 90% of $F_{2021-2023}$ of 509,000 fish (71,000 landed fish and 438,000 dead discards), based on the $F_{2021-2023}$ high recent recruitment scenario from the SEDAR 73 Update Assessment.

Biological benefits to the stock would be expected to be greatest for the alternative that incorporates the largest buffer between ABC and OFL to safeguard against scientific uncertainty related to expected recruitment trends and other issues, and allows the least amount of total removals. Among the alternatives being considered, **Alternative 3** would result in the largest ABC-OFL buffer (16%), followed by **Preferred Alternative 2** (8%), then **Alternative 1** (No Action).

Management Measures

Current measures to prevent dead discards) include the current commercial and recreational fishing seasons for red snapper, size limits, bag limits, trip limits, restrictions on sale/purchase, prohibitions on gear types and methods, gear restricted areas, and ACLs.

Annual Catch Limits

None of the alternatives being considered are expected to negatively affect the red snapper stock because the total mortality that would be authorized by each is less than the OFL. The biological benefits to the stock would be expected to be greatest for the alternatives that provide the largest buffers between the total ACL and ABC or OFL to safeguard against uncertainty related to expected recruitment trends, the performance of discard reduction measures, and other issues, and allow the least amount of total removals. **Alternative 1 (No Action)** would result in the largest buffer between the OFL and the ABC and the least amount of total removals, followed by **Alternative 4**, then **Preferred Alternative 3**, then **Alternative 2**. All of the alternatives would require additional regulatory action to reduce discards from 2021-23 levels. The effects and

practicability of additional regulatory action to further reduce dead discards is evaluated in Action 4.

In general, ACLs that allow more fish to be landed can result in increased net economic benefits. The revised dead discard reduction amounts being considered in **Alternatives 2-4** would increase the total landings of red snapper overall. Thus, in order to achieve the dead discard reduction amounts specified in any of the **Action 3** alternatives, the commercial and recreational sector's ACL for red snapper would increase overall relative to the status quo. Thus, **Alternatives 2-4** are expected to increase harvest opportunities, and are projected to increase the landings of red snapper for both the commercial and recreational sectors. As such, an increase in net economic benefits would be expected from **Action 3, Preferred Alternative 3.**

Given a substantial increase in allowable landings, the commercial sector would likely experience the greatest measure of positive social effects from this action. The greatest social benefits would likely be experienced among commercial fishermen under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Social effects on the commercial sector are most likely to be experienced in Florida which accounts for the greatest proportion of commercial landings (>80%), and particularly the communities of Cocoa and Port Orange, Florida, which together account for 28% of red snapper landings (Section 3.4). Other top red snapper landings communities that would likely experience positive social effects include Daytona Beach, Ormond Beach, Atlantic Beach, Titusville, Jacksonville, Cape Canaveral, and Fort Pierce in Florida, and Morehead City in North Carolina.

The recreational sector would likely also benefit from a substantial increase in catch under this action although portions of the sector could be negatively impacted by the proposed closures or restrictions on fishing needed to meet the specified discard reductions. The greatest social benefits would be experienced by recreational anglers and for-hire businesses through increased ACLs under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Communities in Florida would likely experience the most extensive effects as >80% of recreational red snapper landings occur in waters off Florida (followed by South Carolina and North Carolina, Section 3.4).

Recreational Discard Reduction Measures

**Alternative 1 (No Action)** would not establish new management measures for the recreational sector to achieve dead discard targets for red snapper. Discards of red snapper would continue to be very high due to fishermen targeting co-occurring species, particularly outside of the short red snapper fishing season. Bycatch of red snapper is commonly associated with catches of black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper, and gray triggerfish. **Alternative 1 (No Action)** would continue to result in very short directed fishing seasons for red snapper as most mortality would be associated with dead discards. **Alternative 2** through **Alternative 4**, and their associated sub-alternatives, would be expected to have beneficial biological, social, and economic effects due to reduced discards in specific areas and/or at specific times. For the alternatives being considered, each sub-alternative would be expected to achieve the same level of discard reduction and the difference in effects between them would be minimal. For example, under **Alternative 2**, all of the sub-alternatives would be expected to

achieve discard reductions of about 16-17%, through the combination of year-round location based discard reduction zones or temporal based discard reduction zones. **Alternative 3** and associated sub-alternatives would achieve about 24-25% reduction in discards. **Alternative 4**, **Sub-alternative 4c** would provide the greatest reduction in discards (35%) followed by **Alternative 4**, **Sub-alternative 4b (33%)** and **Alternative 4**, **Sub-alternative 4a (32%)**. No economic effects are expected from **Alternative 1 (No Action)**. As shown in Table 4.4.2.5, the total change in net economic benefits for the recreational sector from **Preferred Sub-Alternative 3** is estimated to be approximately -$19.2 million (2023 $). The change in net economic benefits for the other alternatives range from -$11.5 million to -$66.5 million (Table 4.4.2.5).

**Action 1 (No Action)** would not establish discard reduction areas in order to achieve dead discards for red snapper. **Alternatives 2** through **4** include area closures (geographic areas at certain latitudes and depths, varying by alternative) and time period closures (year round or closed during specific times during the year, varying by alternative) for fishing for, harvesting, or possessing recreational snapper-grouper while using hook-and-line gear in order to achieve reductions of dead discards for red snapper. Discard reduction areas that are limited to certain time periods, rather than year round, such as those in **Sub-Alternative 2b** (January 1 to February 14), **Preferred Sub-Alternative 3b** (December 1 to February 28/29), and **Sub-Alternative 4b** (January 1 to February 28/29) could be less impactful to communities and fishing participants, particularly because these winter months historically have included less fishing effort than other months during the year**.** Discard reduction areas in separate and distinct areas located off the coast of certain locations (such as **Sub-Alternative 2a**, **Sub-Alternative 3a**, and **Sub-Alternative 4a**) could appear to create fairness and equity issues through unequal opportunities to access the resource, with impacts centralized in the coastal counties and communities nearby to those areas. Conversely, discard reduction areas with greater and continuous latitude ranges (such as **Sub-Alternative 4b**, which includes the greatest latitude range, followed by **Sub Alternatives 2b** and **Preferred Sub-Alternative 3b**, which include the same latitude range) would impact a greater number of counties and their associated communities; however this could act in practice and be perceived as less unfair and unequal because the burden of a closed area is spread throughout more geographic areas. Selection of **Preferred Alternative 3b** allows the target reduction in dead discards to be achieved, while minimizing the geographic size and temporal scope of the area in South Atlantic waters.

Compared with **Alternative 1 (No Action)**, **Alternatives 2** through **4**, including the sub-alternatives, would have impacts on enforcement as establishment of discard reduction areas and times would require more surveillance effort which is resource intensive. The areas described in **Alternatives 2** through **4** appear to require at-sea enforcement and would be difficult to enforce dockside. For recreational fishermen, the discard reduction areas would allow transit under certain conditions and would allow harvest, possession, and retention of species in the snapper-grouper complex by gears other than hook and line gear. These allowances for transit would decrease the enforceability of the restrictions in these areas and increase the burden on enforcement to prove all of the required elements of a violation. A high burden would be associated with enforcement having to prove where a snapper-grouper complex species was caught, the type of gear used, the transit status of vessel and if gear was appropriately stowed.

Commercial Trip Limit and Fishing Season

The biological effects of the **Alternatives 2** through **4** proposed would be expected to be neutral compared with **Alternative 1 (No Action)**, because ACLs and AMs are in place to cap harvest, and take action if ACLs are exceeded. Alternatives with larger trip limits could present a greater biological risk to red snapper in terms of exceeding the ACL since the rate of harvest would be greater. However, the quota monitoring system is able to track commercial landings closely and overages of commercial ACLs of snapper-grouper species is either relatively small or uncommon. During the last three fishing years, landings have exceeded by 0.1% and 12.7%, and under harvested by 1%. Larger trip limits increase economic efficiency, but may result in earlier commercial closures of red snapper, which can lead to increased out-of-season regulatory discards. However, regulatory discards when the commercial red snapper season is open can also be high with smaller trip limits since red snapper co- occur with many other snapper-grouper species that are targeted by commercial fishermen such as black sea bass, vermilion snapper, and gag. Therefore, little difference in the biological effects of the trip limit alternatives would be expected.

Recreational Fishing Season

The current recreational fishing season consists of weekends only (Fridays, Saturdays, and Sundays) beginning on the second Friday in July, unless otherwise. In 2025, Amendment 59 would modify the start of the recreational fishing season to begin on the second Saturday in July and the season would consist of Saturdays and Sundays. Beginning in 2026, Amendment 59 would modify the start of the recreational fishing season to begin on the second Saturday in June and the season would consist of Saturdays and Sundays.

The biological benefits of **Alternatives 1 (No Action)**, **2**, and **3** would be expected to be similar since harvest would be controlled by ACLs, and AMs would be implemented if the ACL was expected to be met or was exceeded. In addition, the red snapper spawning season is from May through October, and all three alternatives would allow for harvest of red snapper during their spawning season. However, the spawning season extends from April to October, with peaks in June through August.

Estimating the differences in net economic benefits depending on whether the season starts on any of these three alternative dates is not possible. Information, such as whether Consumer Surplus (CS) values vary on a seasonal basis, is not available for use in estimating the differences in net economic benefits in the **Alternatives** of this action. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the net economic benefits may differ between the alternatives. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4 relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season in July or August (**Preferred Alternatives 4**) would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort. Additional for-hire trips would generate additional Producer Surplus (PS). However, individual for-hire businesses may have different preferences for start dates and red snapper catch and catch effort are at their peak in May-June (**Preferred Alternative 3** and

**Alternative 2**), so it is possible that economic benefits to the recreational sector could be greater if the season were opened earlier in the year such as would be under **Preferred Alternative 3** and **Alternative 2.**

As mentioned in Section 4.6.2, participation in the red snapper portion of the recreational snapper grouper fishery (as gauged by catch, catch effort, and target effort) is greater during wave 4 (July and August), than during wave 3 (June), with target effort highest in wave 4, relative to other waves. These waves also correspond to the start of the summer, when children are off from school and more people take time off work for vacation. When past participation and busy fishing times of the year are considered along with days of the weekend that provide the greatest and most extended access to recreational red snapper fishing, **Preferred Alternative 3** and **Preferred Alternative 4** could provide fishing opportunities to the greatest number of participants, followed by **Alternative 2**. Social benefits are expected throughout communities engaged in the recreational harvest of red snapper (Section 3.4); however benefits for individual communities would vary based on when participation in the fishery is most extensive in that community.

Annual Experimental Studies Program

Currently, there is no annual experimental studies program to reduce red snapper discards and increase fishing opportunities. Requests to conduct experimental studies such as an exempted fishing permit (EFP), are evaluated on an ad-hoc basis. Amendment 59 would establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. Project proposals would be evaluated based on a fixed schedule to be developed by NMFS.

NMFS does not possess the data necessary to estimate the overall direct changes to net economic benefits from an Annual Experimental Studies Program. However, some indirect changes to net economic benefits can be expected from **Alternatives 2** and **3**. An annual experimental studies program has the potential to generate substantial economic benefits for the commercial and recreational sectors that participate in the snapper grouper fishery. By testing new management strategies on an experimental basis, an annual experimental studies program will generate valuable data and institutional knowledge that expands the range of viable management approaches. This, in turn, should be expected to improve net economic benefits for both the recreational and commercial sectors in the long run.

The nature and extent of social effects would depend on whether the studies included in the established experimental program would result in better management and/or information that leads to an increased availability of catch of red snapper for fishermen, and whether a reduced buffer results in negative impacts to the red snapper stock because the ABC and/or OFL is exceeded. Communities where residents and visitors are most extensively engaged in red snapper fishing (Section 3.4) would be expected to benefit or be negatively impacted to the greatest degrees by this action.

**Alternative 1 (No Action)** would not create an administrative burden of designing and implementing an experimental studies program as would **Alternative 2** and **Preferred**

**Alternative 3**. However, **Alternative 2** and **Preferred Alternative 3** would be expected to streamline review of requests to conduct experimental studies that would otherwise be prohibited in accordance with scientific research, exempted fishing, or exempted educational activity requirements outlined at 50 C.F.R. § 600.745, ultimately reducing administrative burden and leading to more informed effective decisions over the long term.

Fishing Year

The current fishing year is January 1 through December 31 consistent with majority of Council managed snapper-grouper species. Amendment 59 would modify the fishing year to be May 1 through April 30.

Assuming that future landings would be similar to recent landings, **Preferred Alternative 2** would be expected to provide the greatest economic benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. Assuming that future catch rates would be similar to recent landings, and considering the proposed start dates of the commercial and recreational seasons (Sub-Action 5b and Action 6); of the action alternatives, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. The greatest benefits would be expected for Florida fishermen and associated communities, where catches are the greatest.

Assuming that future landings would be similar to recent landings, and considering the proposed start dates of the commercial and recreational seasons (Sub-Action 5b and Action 6); of the action alternatives, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. The greatest benefits would be expected for Florida fishermen and to lesser extent, Georgia fishermen and associated communities, where landings are the greatest (Section 3.4).

**Notice of Intent (NOI)**

On October 9, 2024, NOAA Fisheries published an NOI to Prepare an Environmental Impact Statement to Prepare a Secretarial Amendment to Address Overfishing of Red Snapper in the South Atlantic in the Federal Register and requested comments as part of the scoping process (89 FR 81892). The comment period closed on November 9, 2024.

During the comment period, 1345 comment submissions were received. See https://www.regulations.gov/document/NOAA-NMFS-2024-0107-0001/comment for all the comments in their entirety. Of these submissions, two voiced support for the amendment. Eight comments were out of the scope of the analysis.

In general, most comments fell into one of the following categories:

- Against the action (with no additional rationale).

- The science used to make this management decision is flawed and should be reconsidered.
- There are red snapper everywhere and the science that shows that they are overfished must be wrong.

Comments stated that the social and economic impacts associated with management changes to red snapper will be significant and will destroy local businesses, and that vast closures to bottom fishing will directly impact the headboat sector, which allows for more equitable access to the water than other sectors. Some comments stated that these actions directly affect recreational fishermen but commercial fishing is the real issue. There were also some comments that addressed the indirect social and economic impacts that action would have on hotels, restaurants and other businesses that rely on the tourism that fishing supports. See Appendix K for more details.

# Chapter 1. Introduction

## 1.1 What actions are being proposed?

The National Marine Fisheries Service (NMFS) is proposing changes to the management of species in the snapper-grouper complex, specifically South Atlantic red snapper. The proposed changes are contained in Amendment 59 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP). The changes are divided into the following eight actions:

**Action 1.** Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing
**Action 2.** Modify the Acceptable Biological Catch for Red Snapper
**Action 3.** Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits
**Action 4.** Establish New Management Measures to Achieve Dead Discard Targets
**Action 5.** Modify Commercial Management Measures to Further Optimize Yield
**Sub-Action 5a.** Increase the Commercial Trip Limit for Red Snapper
**Sub-Action 5b.** Modify the Commercial Fishing Season for Red Snapper
**Action 6.** Modify the Recreational Fishing Season for Red Snapper to Further Increase Fishing Opportunities/Optimize Yield
**Action 7.** Establish an Annual Experimental Studies Program
**Action 8.** Modify the Fishing Year for Red Snapper

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) additional authority to modify the opening and closing dates of the recreational fishing season or reopen the recreational fishing season, including off a specific South Atlantic state, if adverse weather at least as severe as a small craft advisory, exists or is projected to exist in the South Atlantic exclusive economic zone (EEZ) to reduce the likelihood that fishermen will fish during adverse weather conditions[1].

[1] This action would 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*).

## 1.2 Who is proposing the amendment 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 on behalf of the Secretary of Commerce (Secretary). 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; Figure 1.2.1) in the 3-200 nautical miles U.S. exclusive economic zone (EEZ) is conducted under the 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. Red snapper is part of the multispecies snapper-grouper fishery and is commonly encountered and released out of season when fishermen target other snapper-grouper species. Five other snapper-grouper species in the Snapper-Grouper FMP are currently overfished in the South Atlantic, and two are undergoing overfishing (Status of Stocks 2023).

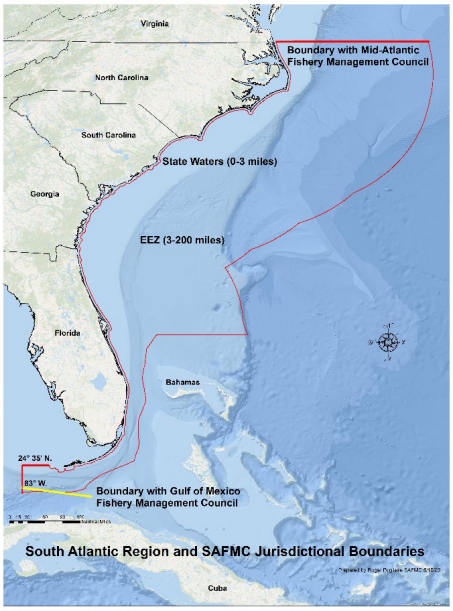



**Figure 1.2.1.** Jurisdictional boundaries for management of the South Atlantic snapper-grouper fishery.

## 1.3 Why is NMFS considering action (Purpose and need statement)?

The **purpose and need** for this action, consistent with the Magnuson-Stevens Act and its National Standards, is to:
End and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress.
Reduce dead discards of red snapper to provide additional opportunities for retaining red snapper and further minimize bycatch consistent with National Standard 9 (bycatch) mandates.

In 2021, a stock assessment for red snapper (Southeast Data, Assessment, and Review 73, [SEDAR 73, 2021]) indicated that red snapper remained overfished and undergoing overfishing, but that the stock was making adequate progress towards rebuilding.[2] In July 2021 NMFS sent a letter to the South Atlantic Fishery Management Council (Council) notifying the Council of the results of the stock assessment and the Magnuson-Stevens Act requirements to end overfishing.

[2] Previous stock assessments for red snapper have indicated that the stock is overfished, and in 2010, a 35-year rebuilding schedule was implemented with the rebuilding time period ending in 2044.

NMFS further explained at Council meetings that although the red snapper stock was rebuilding and the existing rebuilding plan did not need to be revised, the Council needed to take action to end overfishing of red snapper.

The Council developed Regulatory Amendment 35 to the Snapper-Grouper FMP (Regulatory Amendment 35) which, if implemented, would have reduced the catch levels of red snapper and specified gear requirements to reduce discards, but would not have ended overfishing. After taking final action to approve Regulatory Amendment 35 in March 2023, the Council later rescinded its final action to submit Regulatory Amendment 35 to NMFS for implementation at its December 2023 meeting, and took no further action under the Magnuson-Stevens Act to end overfishing.

As a result, on June 14, 2024, NMFS implemented temporary interim measures to reduce overfishing by reducing the catch limits for red snapper for the 2024 red snapper recreational and commercial fishing seasons pursuant to Magnuson-Stevens Act section 305(c), and these measures were effective through December 11, 2024 (89 FR 50350). Most red snapper mortality is attributed to 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 other snapper-grouper species that co-occur with red snapper (Shertzer et al. 2024).

**NMFS must take action to meet the legal requirements to end overfishing.**
The Magnuson-Stevens Act requires that conservation and management measures prevent overfishing, and if overfishing occurs, that actions are taken to stop the overfishing. The Magnuson-Stevens Act also contains 10 National Standards that are statutory principles that must be followed in any FMP, and NMFS has developed guidelines for each National Standard.[3] National Standard 1 states that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery. National Standard 8 addresses economic and social considerations and minimizing to the extent practicable adverse economic impacts on fishing communities within the context of preventing overfishing and rebuilding overfished stocks as required under National Standard 1 and other provisions of the Magnuson-Stevens Act. National Standard 9 states that conservation and management measures shall, to the extent practicable minimize bycatch, and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch. In addition, under National Standard 2, conservation and management measures must be based on the best scientific information available.

**NMFS wants to take action to find ways to increase fishing opportunities for red snapper.**
NMFS believes that fishery managers must find ways to improve how the red snapper population in the South Atlantic is managed. Currently under the Snapper Grouper FMP, there are short commercial and recreational seasons, low catch levels, and low retention limits for red snapper (1 fish recreational bag limit; 75 pound commercial trip limit). Recreational seasons have steadily declined since 2017 from 9 days to only 1 day in 2024 (Figure 1.3.1). Similarly, commercial seasons have ranged from 70 to 40 days in the last five years (Figure 1.3.1).

[3] The National Standard Guidelines are found at 50 C.F.R. 600 Subpart D.

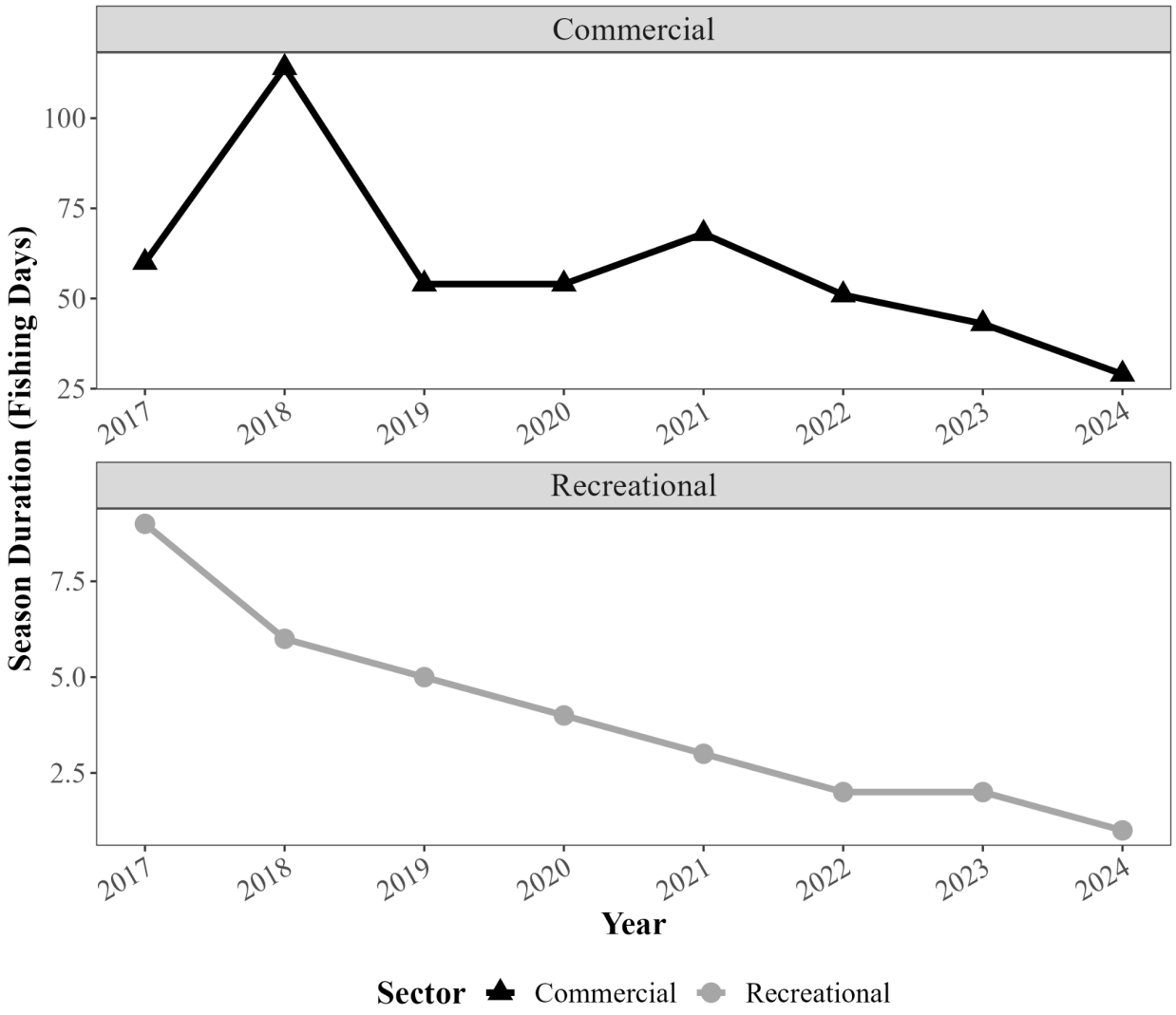



**Figure 1.3.1.** Number of fishing days in the South Atlantic commercial and recreational red snapper fishery from 2017-2024.

Catch limits that allow for a disproportionately higher number of dead discards can result in decreased net economic benefits. Also, stakeholders have expressed frustration with crowded boat ramps and reefs during the limited recreational red snapper seasons, making conditions potentially hazardous for boaters, since short seasons may result in anglers choosing to fish in dangerous conditions. In September 2022, the U.S. Coast Guard expressed concern 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 conditions or the condition of the boater's vessel. This resulted in increased vessel safety incident responses by the U.S. Coast Guard. Similarly, low commercial trip limits increase discards and limit economic benefits associated with longer fishing trips.

**NMFS must reduce the number of dead discards in order to increase the catch limit and related fishing opportunities.**

Regulatory discards and discard mortality are a pervasive issue that affects much of the South Atlantic snapper-grouper management unit (FMU) within the Snapper Grouper FMP. The snapper-grouper FMU includes 55 bottom- and reef-dwelling fish species, many of which are neither snappers nor groupers (e.g., triggerfish and several jack species) (Table 3.2.1). Many of these species have different management regulations and seasons. During a harvest closure for a species, that species must be released even if it is caught when fishing for a different, co-occurring species that can be harvested. As discussed above, most red snapper fishing mortality is attributed to dead discards that occur in the recreational sector during the directed red snapper fishing season and also during the closed red snapper season while fishers are targeting other snapper-grouper species that co-occur with red snapper. Greater than 98% of all red snapper discard mortalities during 2021-2023 were from the recreational sector (includes headboats, charter, and private vessels) (SEDAR 73 Update Assessment [2024]; Table 13).

**NMFS must also take action to end overfishing of red snapper according to a legal settlement agreement.**

In the past two years, NMFS was sued three times for the continued overfishing of South Atlantic red snapper. On August 22, 2024, a federal District Court approved a settlement agreement between NMFS and the plaintiffs in one of these lawsuits. The settlement agreement requires NMFS to submit the final rule implementing a Secretarial Amendment to stop the overfishing of red snapper to the *Federal Register* by June 6, 2025. However, the settlement agreement also provides that NMFS does not have to take that action if the Council takes action to end the overfishing of red snapper and NMFS approves and submits a final rule to the *Federal Register* by June 6, 2025, to implement the Council's action.

## 1.5 What is a Secretarial Amendment? How is it connected to Amendment 59?

A Secretarial Amendment is an amendment to an FMP that is prepared by NMFS on behalf of the Secretary. This Secretarial Amendment for red snapper would amend the Snapper-Grouper FMP, and is therefore, Amendment 59 to the Snapper-Grouper FMP. Under Section 304(c)(1)(A), the Magnuson-Stevens Act provides the Secretary authority to act if a Council fails to develop and submit to the Secretary, after a reasonable period of time, needed conservation and management measures for a species. The Secretarial Amendment is similar to other amendments to FMPs except NMFS prepares the amendment, then provides the amendment to the Council and the public for consideration and comment.

## 1.6 What is the current stock status of the red snapper stock?

***Definitions***

**Overfished**: A stock is considered overfished when the population size is considered too low, whether because of fishing or other causes. If this occurs, a rebuilding plan is needed.

**Undergoing Overfishing**: A stock is considered to be undergoing overfishing if the (annual catch) rate of removal from the population is too high.

The status of the South Atlantic red snapper stock was evaluated in **SEDAR 73 (2021)**. The results of SEDAR 73, which evaluated data through 2019, indicated that the South Atlantic red snapper stock **was experiencing overfishing and remained overfished**. However, the stock assessment showed that the red snapper stock was recovering consistent with rebuilding goals in the existing rebuilding plan, owing to higher than average recruitment of young fish in recent years. An update of the SEDAR 73 (2021) assessment completed by NMFS in December 2024 using data through 2023 **(SEDAR 73 Update Assessment (2024)**) indicated the stock is **still experiencing overfishing** but has increased above the minimum stock size threshold (MSST), and is **no longer overfished** (https://sedarweb.org/assessments/sedar-73/) but is still rebuilding to the target level in the rebuilding plan, which is defined as a reproductive capacity equal to 30% of the spawning potential of an unfished population (30%SPR). Despite the notable progress made towards rebuilding since the plan was established in 2010, spawning stock biomass (SSB) has not yet reached the rebuilding target level of $SSB_{30\%SPR}$ , and there are too many red snapper being caught and discarded dead to sustain this recovery if recruitment decreases back to more historical levels. The recovery may be sustained in the short-term if recruitment continues at levels above the long-term average for the population (SEDAR 73 Update Assessment [2024]); Figure 45). The magnitude of these dead discards is reducing the number of younger fish from surviving to the older ages necessary to sustain the population in the long term. Red snapper will continue to be managed under the existing rebuilding plan until the spawning stock biomass rebuilding target is reached. A new stock assessment incorporating the results of the South Atlantic Red Snapper Research Program is scheduled to be completed in the next several years.

## 1.7 What is the management and stock assessment history for red snapper?

Amendments to the Snapper-Grouper FMP and stock assessments addressing red snapper within the South Atlantic EEZ are described in more detail in an Interim Rule to the Snapper-Grouper FMP and in Appendix D.[4] More information on management for all species in the snapper-grouper FMU may be found at https://safmc.net/fishery-management-plans/snapper-grouper/.

[4] https://www.fisheries.noaa.gov/action/interim-rule-and-2024-south-atlantic-red-snapper-season

# Chapter 2. Proposed Actions and Alternatives

## 2.1 Action 1. Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing

**Alternative 1 (No Action)**. Overfishing occurs when current F > $F_{MSY}$ or $F_{30\%SPR}$.

**Preferred Alternative 2.** Overfishing occurs when current F > $F_{MSY}$ or a reasonable proxy, based on the best scientific information available consistent with National Standard 2.

Note: Only two alternatives are considered here because no other alternatives fit the criterion for best scientific information available. Furthermore, Action 2 and its alternatives are connected to Action 1 and serve as additional consideration of alternatives under NEPA.

***Discussion***

The Magnuson-Stevens Act requires Fishery Management Plans (FMP) to have objective and measurable criteria to be used in determining the status of managed fish stocks. Overfishing occurs when the rate at which fish are removed from a population (fishing mortality during 2021-2023 [$F_{CURRENT}$]) exceeds the Maximum Fishing Mortality Threshold (MFMT) or catch exceeds the overfishing limit (OFL) associated with that value. A stock is overfished when its biomass declines below the Minimum Stock Size Threshold (MSST). Table 2.1.1 shows the current status determination criteria for red snapper.

**Table 2.1.1.** The current status determination criteria for red snapper.

| SDC | Current Definition |
|---|---|
| Maximum Sustainable Yield | MSY = The yield produced by $F_{MSY}$. F30%SPR is used as the FMSY proxy |
| Minimum Stock Size Threshold | MSST = 75% of $SSB_{MSY}$ |
| Maximum Fishing Mortality Threshold | MFMT = $F_{MSY}$ or its proxy |

Amendment 11 to the Snapper-Grouper FMP set the MFMT for red snapper equal to $F_{MSY}$ or its proxy, and established the $F_{MSY}$ proxy for red snapper as 30% of the spawning potential that would be in the water if there were no fishing ($F_{30\%SPR}$). Regulatory Amendment 21 to the Snapper-Grouper FMP set the red snapper MSST equal to 75% of the biomass at maximum sustainable yield ($B_{MSY}$) or $B_{30\%SPR}$. This action proposes to revise the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing from a fixed $F_{30\%SPR}$ value to a more flexible definition that reflects the best scientific information available (BSIA) at the time an overfishing

definition is made. The use of flexible and adaptable overfishing definitions is supported by NMFS and has been used by the Mid-Atlantic and New England Fishery Management Councils (MAFMC 2007, 2018; NEFMC 2019).

**Alternative 1 (No Action)** would continue the practice of determining whether the red snapper population is undergoing overfishing based on whether $F_{CURRENT}$ is higher (overfishing) or lower (not overfishing) than $F_{30\%SPR}$ or the associated OFL. If this alternative were to be selected, then the red snapper stock would continue to be classified as undergoing overfishing ($F_{CURRENT} / F_{30\%} = 1.85$) based on the results of the 2024 SEDAR 73 Update Assessment. **Preferred Alternative 2** would enable NMFS to base overfishing determinations on the BSIA at the time of the determination without having to first revise or establish a new $F_{MSY}$ proxy through an amendment to the Snapper-Grouper FMP. Amendment 59 would specify $F_{MSY}$ proxy as the fishing mortality rate consistent with maintaining the existing rebuilding plan adopted in Amendment 17A to the Snapper-Grouper FMP. Based on the SEDAR 73 Update Assessment, the $F_{MSY}$ proxy would be equivalent to $F_{2021\text{-}2023}$, and the red snapper stock would no longer be classified as undergoing overfishing ($F_{CURRENT} / F_{2021\text{-}23} = 1.0$). Using $F_{2021\text{-}23}$ is a reasonable $F_{MSY}$ proxy for the South Atlantic red snapper stock until the next assessment is completed in 2028. The Amendment 17A rebuilding plan for red snapper estimates the SSB to be 0.86 of $SSB_{MSY}$ in 2028, which is the same level of rebuilding projected by the most recent assessment update if $F_{2021\text{-}2023}$ is used as a proxy for $F_{MSY}$. Projection results from the SEDAR 73 Update Assessment (2024) indicate this level of fishing mortality combined with recent, above-average recruitment would keep the stock on track to rebuild. After 2028, new catch limits could be put in place based on a revised assessment that includes information from the South Atlantic Red Snapper Research Plan. Currently, the OFL for South Atlantic red snapper equals 56,000 fish (landings + discards), based on the Council's SSC's recommendation following the SEDAR 41 stock assessment (2017). Updating that reference point consistent with an $F_{MSY}$ proxy of $F_{2021\text{-}23}$ would establish a new OFL of 551,000 fish (76,000 landings + 475,000 discards).

### 2.1.1. Comparison of Alternatives

Neither **Alternative 1 (No Action)** nor **Preferred Alternative 2** is expected to have negative effects on the red snapper stock; however, **Alternative 1 (No Action)** could indirectly benefit the stock by requiring more precautionary management measures be adopted to address Magnuson-Stevens Act overfishing mandates relative to **Preferred Alternative 2**, depending on the reasonable proxy that is used to make overfishing determinations under **Preferred Alternative 2**. Red snapper stock assessments have concluded that fishing mortality has exceeded the $F_{30\%SPR}$ $F_{MSY}$ proxy specified by **Alternative 1 (No Action)** (i.e., red snapper is undergoing overfishing) almost every year since the rebuilding plan was implemented in 2010 even though stock biomass has been rebuilding to the target level slightly ahead of schedule and recently crossed the overfished threshold (i.e., red snapper is no longer overfished). Because most red snapper mortality is attributed to dead discards in the recreational fishery, continuing to base overfishing determinations on an $F_{MSY}$ proxy of $F_{30\%SPR}$ would require dead discards be further reduced to end and prevent overfishing. **Preferred Alternative 2** would not require additional regulatory action to end overfishing of red snapper if its overfishing status is determined based on an $F_{MSY}$ consistent with maintaining the rebuilding plan adopted in Amendment 17A, because the SEDAR 73 Update Assessment projections under the high recent average recruitment

scenario indicate the stock would continue to rebuild until the next assessment is completed and therefore overfishing would not be occurring (Figure 2.2.1.1).

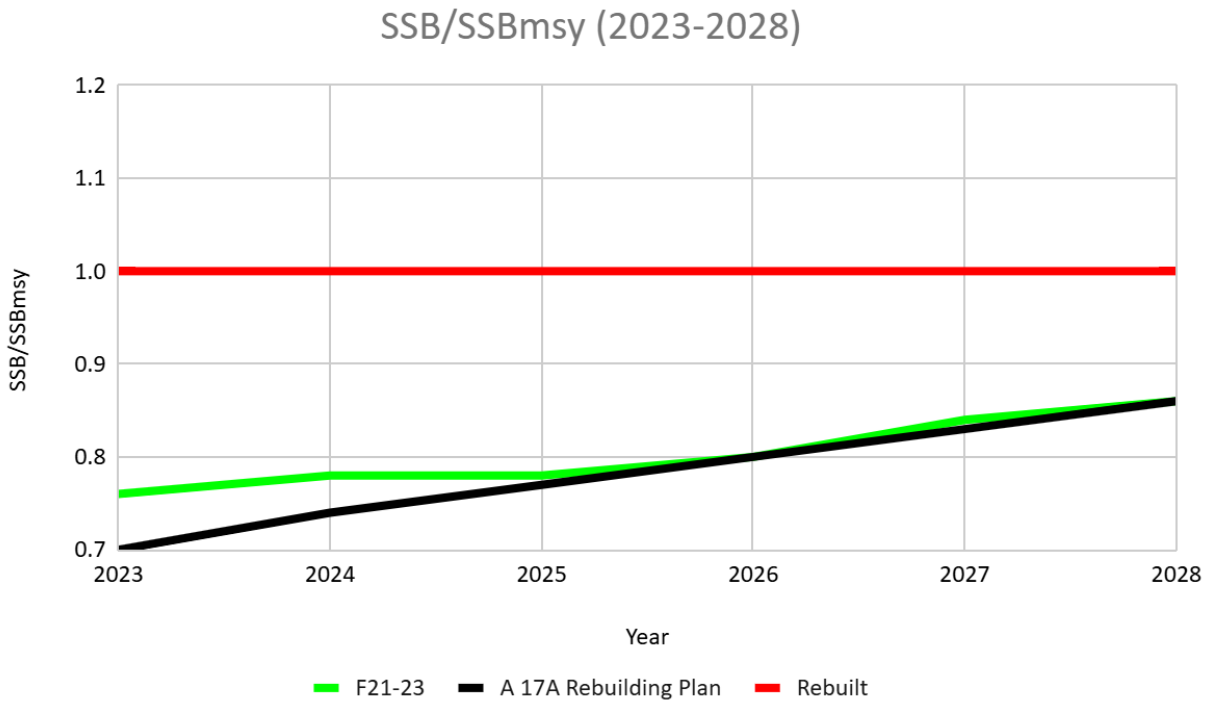



**Figure 2.1.1.** SSB/$SSB_{MSY}$ ratios for the red snapper rebuilding plan adopted in Amendment 17A and projections from the SEDAR 73 Update Assessment (2024) using an $F_{MSY}$ proxy equivalent to $F_{21\text{-}23}$.

While red snapper recruitment has been above the long-term average in nine of the last ten years (Figure 18 from SEDAR 73 Update Assessment [2024]), the SEDAR 73 Update Assessment indicates there is some uncertainty as to whether recruitment will remain high through 2028. However, the probabilistic projections of SSB using an $F_{2021\text{-}23}$ rate indicate the stock would rebuild at a comparable rate to the Amendment 17A rebuilding plan if there were no additional reductions in fishing mortality. Therefore, the risk of fishing at the $F_{2021\text{-}23}$ rate resulting in overfishing before the new stock assessment is completed in 2028 is low. And that risk can be further minimized in the interim by setting the red snapper ABC and ACL below the OFL to safeguard against scientific and management uncertainty, and reviewing the status of the red snapper stock at 2-year intervals, consistent with Magnuson-Stevens Act section 304(e)(7), to ensure rebuilding stays on track. Actions 2-4 explore and evaluate the tradeoffs of alternative ABC and ACL reference points and related discard reduction objectives.

As a benchmark, the $F_{MSY}$ proxy for red snapper overfishing would not directly limit how, when, where, or with what frequency participants in the fishery engage in harvesting the resource. This includes participants who directly utilize the resource (principally commercial vessels, for-hire operations, and recreational anglers), as well as participants associated with peripheral and

support industries. Since there would be no direct effects on resource harvest or use, there would be no direct economic effects on fishery participants, associated industries, or communities. However, benefits or impacts may result indirectly from the $F_{MSY}$ proxy if changes in catch limits or management regulations occur.

While it is the case for some fishermen that any access to a stock would be beneficial, the positive effects of consistency in regulations (even if access is restricted) and stability in the fishery would also be expected from a more fixed designation as overfishing or not overfishing. Overall, social benefits would be expected from the alternative updating values based on the more flexible and responsive approach (**Preferred Alternative 2**). Not utilizing the flexible and adaptable overfishing definition (**Alternative 1 (No Action)**) is expected to result in negative social effects to fishing communities by not accurately portraying the status of the stock or providing the resulting benefits of correctly portraying its recovery.

**Preferred Alternative 2** would allow for the use of a new overfishing definition as long as NMFS determines it is BSIA to support a stock status determination. Because status determinations must be based on the SDC in the FMP per the Magnuson-Stevens Act, NMFS does not use these new criteria for official stock status determinations until they are adopted in an FMP. **Alternative 1 (No Action)** would not allow for the use of a flexible approach in specifying an overfishing definition, and would require a new amendment to an FMP to change this definition when scientists recommend a different approach for defining overfishing. Adopting new SDC can result in delays in updating stock status determinations because amending an FMP can be a lengthy process. Thus, the administrative burden of **Alternative 1 (No Action)**, would be greater than **Preferred Alternative 2**. The use of flexible overfishing and overfished SDC in FMPs that enable more timely stock status determinations in such situations has been adopted by the Mid-Atlantic Council and New England Council.

## 2.2 Action 2. Modify the Acceptable Biological Catch for Red Snapper

**Alternative 1 (No Action).** The acceptable biological catch for red snapper is 53,000 fish (total removals).

**Preferred Alternative 2.** Modify the acceptable biological catch to equal to 509,000 fish (71,000 landed fish + 438,000 dead discards).

**Alternative 3.** Modify the acceptable biological catch to equal to 464,000 fish (65,000 landed fish + 399,000 dead discards).

**Table 2.2.1.** Acceptable Biological Catch values (total removals in numbers of fish separated into landings and dead discards) under the alternatives considered in Action 2.

| **Alternative** | **ABC in total removals in numbers of fish (landed fish + dead discards)** |
|---|---|
| Alternative 1 (No Action) | 53,000<br>(18,000 + 35,000) |
| **Preferred Alternative 2** | 509,000<br>(71,000 + 438,000) |
| Alternative 3 | 464,000<br>(65,000 + 399,000) |

Source: NMFS SERO. Commercial average weight (2021-2023) = 9.19 lbs.
Recreational average weight (2021-2023) = 11.085 lbs.

***Discussion***

The Magnuson-Stevens Act requires each regional fishery management council's scientific and statistical committee (SSC) to provide ongoing scientific advice for fishery management decisions, including acceptable biological catch (ABC) recommendations. Since this is a Secretarial action as required under the MSA, specification of the ABC is based on scientific advice from the NMFS Southeast Fisheries Science Center (50 C.F.R. § 600.310(f)(3)). The ABC defines the maximum value at which a stock's annual catch limit may be set and is intended to account for any scientific uncertainty inherent in estimating the OFL of a stock. This action proposes to modify the current red snapper ABC recommended by the South Atlantic Fishery Management Council's (Council) SSC and established through the final rule to implement Amendment 43 to the Snapper-Grouper FMP, based on the results of the SEDAR 73 Update Assessment (2024).

**Alternative 1 (No Action)** would retain the current ABC of 53,000 fish. The Council's SSC developed that ABC recommendation based on the results of SEDAR 41 (2017). The current ABC is based on the SSC's ABC recommendation for landed fish (18,000) and for dead discarded fish (35,000). This ABC assumed that management actions to reduce landings would have equal and commensurate reductions in dead discards. Subsequent analyses have indicated that commensurate reductions did not occur. NMFS has since revised its projection methodology

to more accurately reflect the dead discards that would occur, resulting in more realistic estimates. Given the SSC's uncertainty associated with the red snapper recreational discard estimates, NMFS determined that it was not appropriate at that time to rely on those discard estimates for the management of red snapper, and that the division of the SSC's ABC recommendation of 53,000 fish into landed fish and discarded fish was not warranted. **Preferred Alternative 2** and **Alternative 3** would set the ABC for red snapper equal to the amount of catch that is associated with fishing at 90% (509,000 lbs) or 80% (464,000 lbs) of the fishing mortality rate from 2021-2023, consistent with the $F_{MSY}$ proxy applied in this amendment. Given uncertainty in whether or not above-average recruitment will persist in the near-term, setting the ABC below the OFL accounts for this uncertainty and reduces the maximum fishing mortality rate and the ACL that can be set for red snapper.

#### 2.2.1.1. Comparison of Alternatives

Biological benefits to the stock would be expected to be greatest for the alternative that incorporates the largest buffer between ABC and OFL to safeguard against scientific uncertainty related to expected recruitment trends and other issues, and allows the least amount of total removals. Among the alternatives being considered, **Alternative 3** would result in the largest ABC-OFL buffer (16%), followed by **Preferred Alternative 2** (8%), then **Alternative 1** (No Action). **Alternative 1 (No Action)** would allow the lowest level of total removals, followed by **Alternative 3**, then **Preferred Alternative 2** (see Table 2.2.1). **Preferred Alternative 2** and **Alternative 3** would require additional regulatory action to reduce discards by at least 8% and 16% from 2021-23 levels, respectively, if **Action 1, Preferred Alternative 2** is selected. The effects of additional regulatory action to further reduce dead discards is evaluated in Action 4. Thus, under the alternatives being considered, the biological benefits of the alternatives being considered would be greatest for **Alternative 1 (No Action)**, followed by **Alternative 3**, and **Preferred Alternative 2**.

**Alternative 1 (No Action)** would continue to set the ABC for red snapper at 53,000 fish (total removals). Because the ABC would not change relative to the status quo, no immediate and direct economic effects (positive or negative) are expected from **Alternative 1 (No Action)**.

**Preferred Alternative 2** would modify the ABC for red snapper to equal to 92% of OFL = 509,000 fish (71,000 landed fish + 438,000 dead discards). While implemented ACLs directly affect the total amount of fish available for harvest, an ABC controls the overall ACL amount, thus indirectly affecting the total amount of fish available for harvest. As such, modifying the ABC for red snapper to equal 509,000 fish would significantly expand harvest opportunities from the status quo, largely due to the increase in the ACL. As such, the anticipated indirect economic effects of **Preferred Alternative 2** would be an increase overall to net economic benefits for all sectors.

**Alternative 3** would modify the ABC for red snapper to equal 84% of OFL = 464,000 fish (65,000 landed fish + 399,000 dead discards). Similar to **Preferred Alternative 2, Alternative 3**'s ABC would also significantly expand harvest opportunities through an increased ACL, but to a slightly lesser extent than **Preferred Alternative 2**. As such, the anticipated indirect economic

effects of **Alternative 3** would also be an increase overall to net economic benefits for all sectors.

**Preferred Alternatives 2** and **Alternative 3** are based on the updated assessment and each include a buffer between the ABC and OFL. Adjustments to an ABC based on updated information are necessary to ensure the harvest remains sustainable and to provide continued, and in this case, expanded access to the resource. In addition, **Preferred Alternatives 2** and **Alternative 3** are expected to more closely reflect the current abundance and prevalence of red snapper that fishermen also see on the water when compared to **Alternative 1 (No Action)**. **Preferred Alternative 2** would set the ABC to 92% of the OFL and would allow for a landed catch of 71,000 fish. **Alternative 3** would set the ABC to 84% of the OFL, and would allow for a landed catch of 65,000 fish. **Alternative 3** would provide a greater buffer for scientific uncertainty in the event that recruitment declines more substantially than predicted, but the lower ABC would result in lower social benefits if the ACL is set at or near the **Alternative 3** ABC. Among the action alternatives, **Preferred Alternative 2** would be the most beneficial for fishermen, followed by **Alternative 3.**

The potential administrative effects of these alternatives also differ in terms of the implied restrictions required to constrain landings and dead discards. Thus, among the action alternatives, administrative effects would be expected to be higher for **Alternative 3** than **Preferred Alternative 2**, since the overall ABC would be lower for **Alternative 3**. **Alternative 1 (No Action)** specifies the lowest level of landed catch among the alternatives considered and could require the greatest amount of administrative work to constrain landings to that level. **Alternative 1 (No Action)** would also have the greatest negative social and economic effects, and is no longer based on best available scientific information. **Preferred Alternative 2** would provide greater economic and social benefits in the short-term compared to **Alternative 3**, because catch limits could potentially be set higher.

## 2.3 Action 3. Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits

**Alternative 1 (No Action).** Total annual catch limit = 42,510 fish (landed fish only). The commercial annual catch limit is 124,815 lbs ww, and the recreational annual catch limit is 29,656 fish. Annual catch limits are based on landings only.

**Alternative 2.** Reduce dead discards 16% from the baseline and use this discard reduction achievement to increase the total annual catch limit to 505,000 or 459,000 fish based on the acceptable biological catch selected in Action 2.

**Preferred Alternative 3.** Reduce dead discards 24% from the baseline and use this discard reduction achievement to increase the total annual catch limit to **500,000** or 459,000 **fish** based on the acceptable biological catch selected in Action 2.

**Alternative 4.** Reduce dead discards 32% from the baseline and use this discard reduction achievement to increase the total annual catch limit to 496,000 or 454,000 fish based on the acceptable biological catch selected in Action 2.

Note: Baseline is Fcurrent average discards for 2025-2027 = 475,000 dead discards.

Annual catch limits cannot exceed the ABC selected in Action 2. Lower annual catch limits may be set using either ABC alternative in Action 2. Catch limits in Table 2.3.1 are based on the 2025-2027 average projected landings and dead discards from the SEDAR 73 Updated Assessment 90%$F_{21\text{-}23}$ and 80%$F_{21\text{-}23}$ projection runs, as adjusted for reductions in dead discards to allow for higher landed catch (see Figure 69; SEDAR 73 Update Assessment 2024). Based on **Preferred Alternative 2** in Action 2, there would be a 0-2% buffer between the ABC and ACL depending on the level of discard reduction achieved. If a lower annual catch limit is set in combination with **Preferred Alternative 2** in Action 2, then the buffer between the ABC and ACL would be 8-10% to account for increased management uncertainty. If **Alternative 3** is selected as the preferred in Action 2, then the lower catch limit would provide a 0-2% buffer between the ABC and ACL.

**Table 2.3.1.** Total (landings + dead discards) and sector annual catch limits (landings) resulting from dead discard reduction scenarios in ACL Alternatives 2-4 based on ABC Alternatives 2 and 3 in Action 2. The Commercial ACL is in lbs ww and the recreational ACL is in numbers of fish.

| Action 3 ACL Alternative | Required Dead Discard Reduction | Total ACL (landings + dead discards (n)) | | Commercial ACL (lbs ww) | | Recreational ACL (n) | |
|---|---|---|---|---|---|---|---|
| | | Action 2 Preferred ABC Alt 2 | Action 2 ABC Alt 2 or Alt 3 | Action 2 ABC Preferred Alt 2 | Action 2 ABC Alt 2 or Alt 3 | Action 2 ABC Preferred Alt 2 | Action 2 ABC Alt 2 or Alt 3 |
| **Alternative 1** | | 42,510* | | 124,815 | | 29,656 | |
| **Alternative 2** | 16% | 505,000 (105,000 + 400,000) | 464,000 (65,000 + 399,000) | 300,000 | 233,000 | 64,000 | 40,000 |
| **Preferred Alternative 3** | **24%** | **500,000 (139,000 + 360,000)** | 459,000 (96,000 + 363,000) | **346,000** | 284,000 | **85,000**** | 59,000 |
| **Alternative 4** | 32% | 496,000 (172,000 + 323,000) | 454,000 (131,000 + 323,000) | 390,000 | 330,000 | 105,000 | 80,000 |

*Landings only. ** The recreational ACL of 85,000 fish equates to 887,000 lbs ww.

Source: NMFS SERO. Commercial average weight (2021-2023) = 9.19 lbs.
Recreational average weight (2021-2023) = 11.085 lbs.

***Discussion***

**Alternative 1 (No Action)** would retain the total ACL of 42,510 landed fish. Based on the existing sector allocations of 28.07% commercial and 71.93% recreational, the commercial ACL would remain at 124,815 lbs ww, and the recreational ACL at 29,656 fish. The total ACL for red snapper of 42,510 fish was specified in the final rule for Amendment 43 to the Snapper-Grouper FMP and is based on the landings observed during the limited red snapper season in 2014. This current ACL only includes landings and is based on data from 10 years ago. **Alternatives 2-4** are derived from SEDAR Update Assessment (2024) projections of the amount of catch that is associated with fishing at either 80% or 90% of $F_{2021\text{-}2023}$ ($F_{MSY}$ proxy for maintaining rebuilding consistent with Amendment 17A rebuilding plan) applied in this amendment from 2025-2027 under the high recent average recruitment scenario. They are designed to help us to explore the additional fishing opportunities that could be realized by transitioning an increasingly greater portion of red snapper discards to landed catch. High levels of red snapper dead discards impede

our ability to optimize yield in the fishery in the form of food production and recreational opportunities. Table 2.3.1 outlines the annual catch limit increases that would be supported by the alternative discard reduction objectives. The total ACLs associated with **Alternatives 2-4** are progressively smaller in number because landed fish are generally larger than those that are discarded and so weigh more than a larger number of smaller fish. However, sector specific ACLs are higher for both commercial and recreational sectors due to the reduction in dead discards leading to greater potential to retain fish. The sector ACLs supported by those alternatives range from 233,000- 390,000 lbs (commercial) and 40,000-105,000 fish (recreational). The recreational red snapper fishing season length corresponding to these ACLs ranges from 2-3 days under **Alternative 1 (No Action)** to 7-11 days under **Alternative 4**. For the commercial sector, the length of the fishing season for red snapper would depend on the trip limit selected in Action 5a and ranges from 21-45 days under **Alternative 1 (No Action)** to 76-146 days under **Alternative 4**. **Preferred Alternative 3** would require dead discards be reduced by 24% to increase the total red snapper ACL to 500,000 fish (139,000 landings + 360,000 dead discards), the commercial ACL to 346,000 lbs, and the recreational ACL to 85,000 fish based on **Action 2, Preferred Alternative 2**. The corresponding commercial and recreational fishing season lengths would be 76-145 days and 5-9 days, respectively.

### 2.3.1 Comparison of Alternatives

None of the alternatives being considered are expected to negatively affect the red snapper stock because the total mortality that would be authorized by each is less than the OFL. The biological benefits to the stock would be expected to be greatest for the alternatives that provide the largest buffers between the total ACL and ABC or OFL to safeguard against uncertainty related to expected recruitment trends, the performance of discard reduction measures, and other issues, and allow the least amount of total removals. **Alternative 1 (No Action)** would result in the largest buffer between the OFL and the ABC and the least amount of total removals, followed by **Alternative 4**, then **Preferred Alternative 3**, then **Alternative 2**. All of the alternatives would require additional regulatory action to reduce discards from 2021-23 levels. The effects and practicability of additional regulatory action to further reduce dead discards is evaluated in Action 4.

In general, ACLs that allow more fish to be landed can result in increased net economic benefits. The revised dead discard reduction amounts being considered in **Alternatives 2-4** would increase the total landings of red snapper overall. Thus, in order to achieve the dead discard reduction amounts specified in any of the **Action 3** alternatives, the commercial and recreational sector's ACL for red snapper would increase overall relative to the status quo. Thus, **Alternatives 2-4** are expected to increase harvest opportunities, and are projected to increase the landings of red snapper for both the commercial and recreational sectors. As such, an increase in net economic benefits would be expected from **Action 3, Preferred Alternative 3.**

Given a substantial increase in allowable landings, the commercial sector would likely experience the greatest measure of positive social effects from this action. The greatest social benefits would likely be experienced among commercial fishermen under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Social effects on the commercial sector are most likely to be experienced in Florida which accounts for the greatest proportion of commercial landings (>80%), and particularly the communities of Cocoa and Port Orange,

Florida, which together account for 28% of red snapper landings (Section 3.4). Other top red snapper landings communities that would likely experience positive social effects include Daytona Beach, Ormond Beach, Atlantic Beach, Titusville, Jacksonville, Cape Canaveral, and Fort Pierce in Florida, and Morehead City in North Carolina.

The recreational sector would likely also benefit from a substantial increase in catch under this action although portions of the sector could be negatively impacted by the proposed closures or restrictions on fishing needed to meet the specified discard reductions. The greatest social benefits would be experienced by recreational anglers and for-hire businesses through increased ACLs under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Communities in Florida would likely experience the most extensive effects as >80% of recreational red snapper landings occur in waters off Florida (followed by South Carolina and North Carolina, Section 3.4).

The administrative effects of Alternatives 1 (No Action) through Alternative 4 would be expected to be similar. Commercial seasons could be easier to monitor as landings would be extended over a longer period of time due to higher catch limits. Under all alternatives, a recreational fishing season would be specified ahead of the start of the season with an opening in summer with projected closing dates. Similarly, the commercial season would open in May, June, or July, and the commercial ACL would be expected to be met under all the alternatives considered. A May 1 commercial opening is the preferred alternative in Action 5b.

## 2.4 Action 4. Establish New Management Measures for the Recreational Sector to Achieve Dead Discard Reductions for Red Snapper

**Alternative 1 (No Action).** Do not establish new management measures for the recreational sector to achieve dead discard targets for red snapper.

**Alternative 2.** Establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 16%.

In the areas described in Sub-Alternatives 2a and 2b, the prohibition on possession of snapper-grouper species by hook-and-line fishing gear (including trolling gear) does not apply to a person aboard a recreational vessel that is in transit through the areas with hook-and-line fishing gear (including trolling gear) appropriately stowed. Transit means direct, non-stop progression through the area. Fishing gear appropriately stowed means terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck. This includes trolling activity when in possession of snapper-grouper species. Hook-and-line gear means one or more hooks attached to one or more lines (can include a troll).

**Sub-alternative 2a.** Establish two discard reduction areas for the recreational sector. In these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear).

The first area is in the exclusive economic zone off Jacksonville, Florida, between 30.3 and 30.7° N (30°18.0’ and 30°42.0’ N) latitudes and between the approximate depths of 80 to 150 ft. The second area is in the exclusive economic zone off Cape Canaveral, Florida, between 28.3 and 28.7° N (28°18.0’ and 28°42.0’ N) latitudes and between the approximate depths of 80 to 150 ft. The areas are defined by the coordinates shown in Tables 2.4.1 and 2.4.2 and Figure 2.4.1.

**Table 2.4.1.** Boundary coordinates for the discard reduction area off Jacksonville, Florida, in Sub-alternative 2a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0’ N | 80°51.0’ W |
| 2 | 30°42.0’ N | 80°09.2’ W |
| 3 | 30°18.0’ N | 80°17.7’ W |
| 4 | 30°18.0’ N | 80°56.9’ W |

**Table 2.4.2.** Boundary coordinates for the discard reduction area off Cape Canaveral, Florida, in Sub-alternative 2a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 28°42.0’ N | 80°20.7’ W |
| 2 | 28°42.0’ N | 80°11.6' W |
| 3 | 28°18.0’ N | 80°07.2’ W |
| 4 | 28°18.0’ N | 80°17.0’ W |

## Sub-Alternative 2a

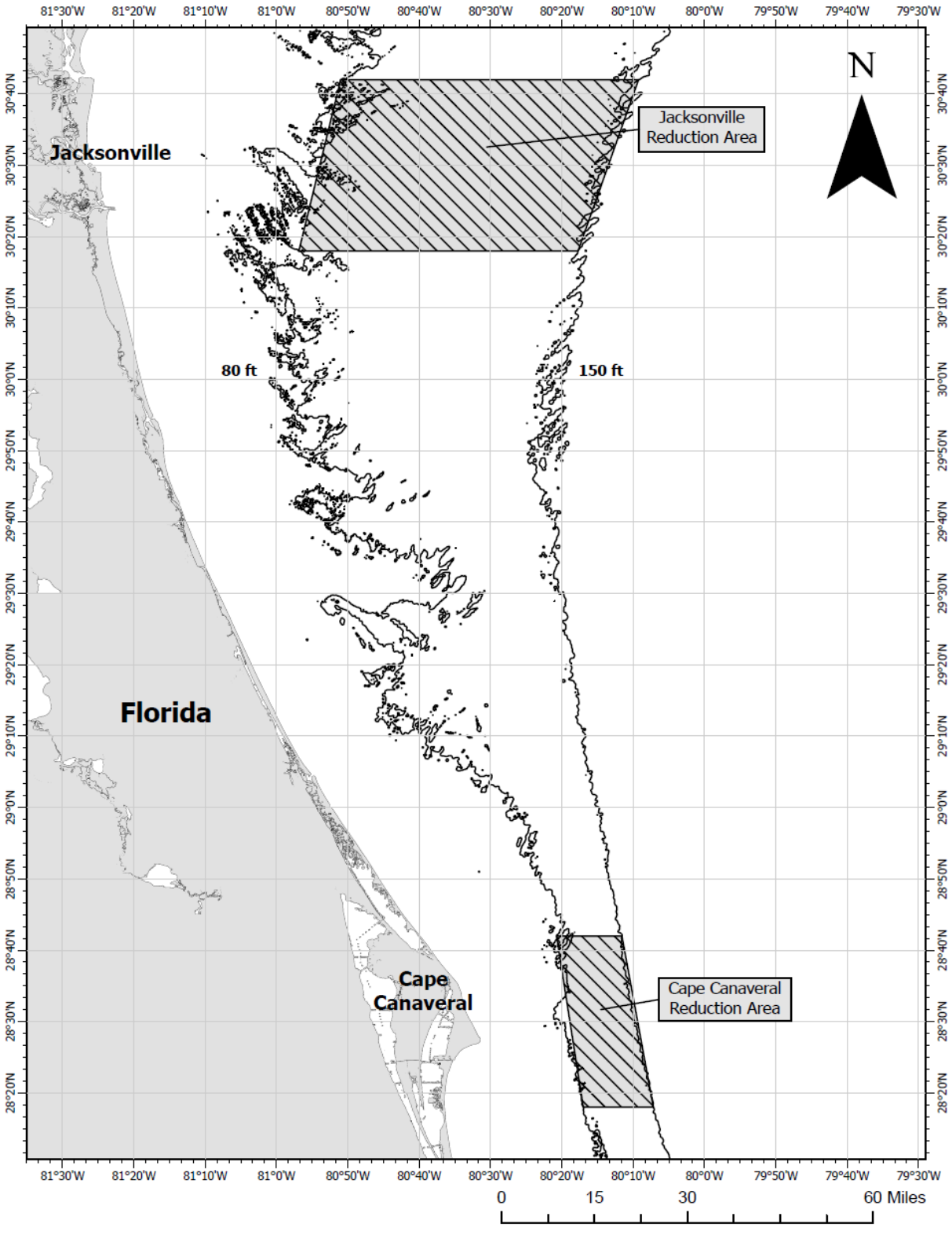


**Figure 2.4.1.** The location of the discard reduction areas off Jacksonville and Cape Canaveral, Florida, in Sub-alternative 2a.

**Sub-alternative 2b**: Establish a discard reduction season for the recreational sector. During January 1 through February 14 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30°42.0' N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear). The area is defined by the coordinates shown in Table 2.4.3 and Figure 2.4.2.

**Table 2.4.3.** Boundary coordinates for the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 2b.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0' N | State/Federal boundary |
| 2 | 30°42.0' N | EEZ boundary |
| 3 | 28°00.0' N | EEZ boundary |
| 4 | 28°00.0' N | State/Federal boundary |

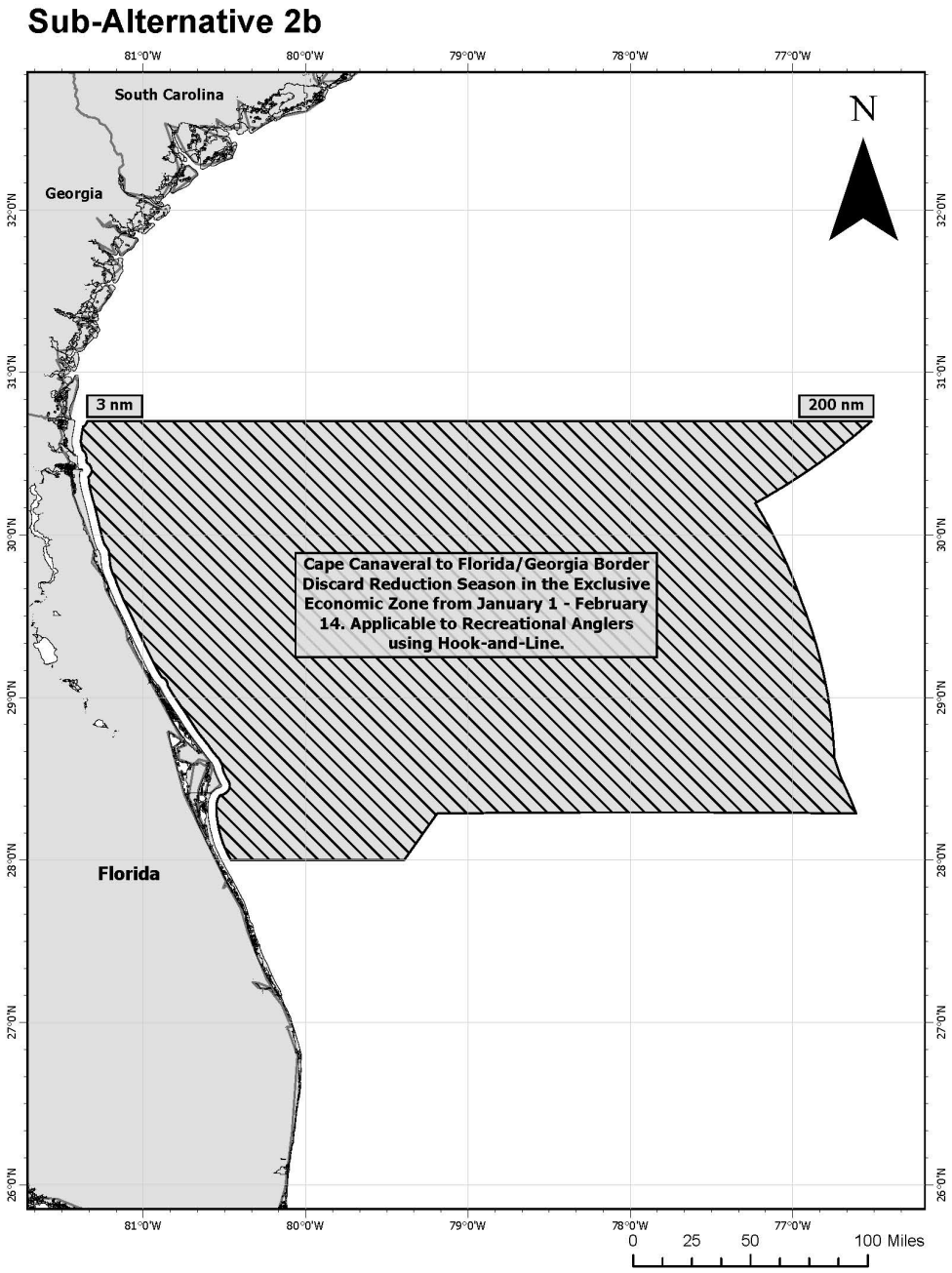



**Figure 2.4.2.** The location of the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 2b.

**Preferred Alternative 3.** Establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24%.

In the areas described in Sub-Alternatives 3a and 3b, the prohibition on possession of snapper-grouper species by hook-and-line fishing gear (including trolling gear) does not apply to a person aboard a vessel that is in transit through the areas with hook-and-line fishing gear (including

trolling gear) appropriately stowed. Transit means direct, non-stop progression through the area. Fishing gear appropriately stowed means terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck. This includes trolling activity when in possession of snapper-grouper species. Hook-and-line gear means one or more hooks attached to one or more lines (can include a troll).

**Sub-alternative 3a.** Establish three discard reduction areas for the recreational sector. In these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear).

The first area is in the exclusive economic zone off Jacksonville, Florida, between 30.3 and 30.7° N (30°18.0' and 30°42.0' N) latitudes and between the approximate depths of 80 to 150 ft. The second area is in the exclusive economic zone off St. Augustine, Florida, between 29.5 and 29.9° N (29°30.0' and 29°54.0' N) latitudes and between the approximate depths of 80 to 150 ft. The third area is in the exclusive economic zone off Cape Canaveral, Florida, between 28.3 and 28.7° N (28°18.0' and 28°42.0' N) latitudes and between the approximate depths of 80 to 150 ft. The areas are defined by the coordinates shown in Tables 2.4.4, 2.4.5, and 2.4.6 and Figure 2.4.3.

**Table 2.4.4.** Boundary coordinates for the discard reduction area off Jacksonville, Florida, in Sub-alternative 3a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0' N | 80°51.0' W |
| 2 | 30°42.0' N | 80°09.2' W |
| 3 | 30°18.0' N | 80°17.7' W |
| 4 | 30°18.0' N | 80°56.9' W |

**Table 2.4.5.** Boundary coordinates for the discard reduction area off St. Augustine, Florida, in Sub-alternative 3a**.**

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 29°54.0' N | 80°52.8' W |
| 2 | 29°54.0' N | 80°20.9' W |
| 3 | 29°30.0' N | 80°20.4' W |
| 4 | 29°30.0' N | 80°36.0' W |

**Table 2.4.6.** Boundary coordinates for the discard reduction area off Cape Canaveral, Florida, in Sub-alternative 3a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 28°42.0' N | 80°20.7' W |

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 2 | 28°42.0’ N | 80°11.6’ W |
| 3 | 28°18.0’ N | 80°07.2’ W |
| 4 | 28°18.0’ N | 80°17.0’ W |

## Sub-Alternative 3a

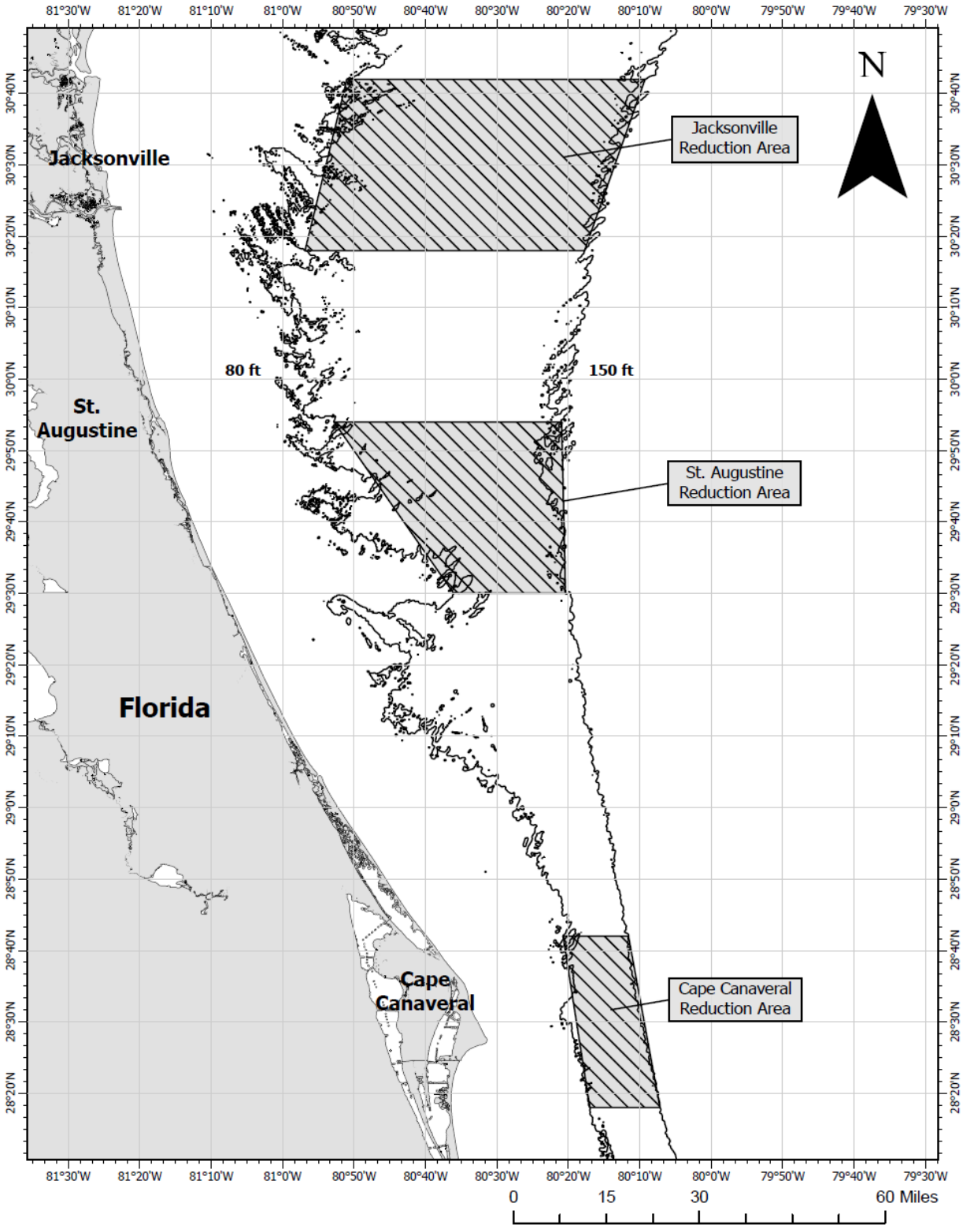


**Figure 2.4.3.** The location of the discard reduction areas off Jacksonville, St. Augustine, and Cape Canaveral Florida, in Sub-alternative 3a.

**Preferred Sub-alternative 3b**. Establish a discard reduction season for the recreational sector. During December 1 through the end of February each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30°42.0' N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear). The area is defined by the coordinates shown in Table 2.4.7 and Figure 2.4.4.

**Table 2.4.7.** Boundary coordinates for the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 3b.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0' N | State/Federal boundary |
| 2 | 30°42.0' N | EEZ boundary |
| 3 | 28°00.0' N | EEZ boundary |
| 4 | 28°00.0' N | State/Federal boundary |

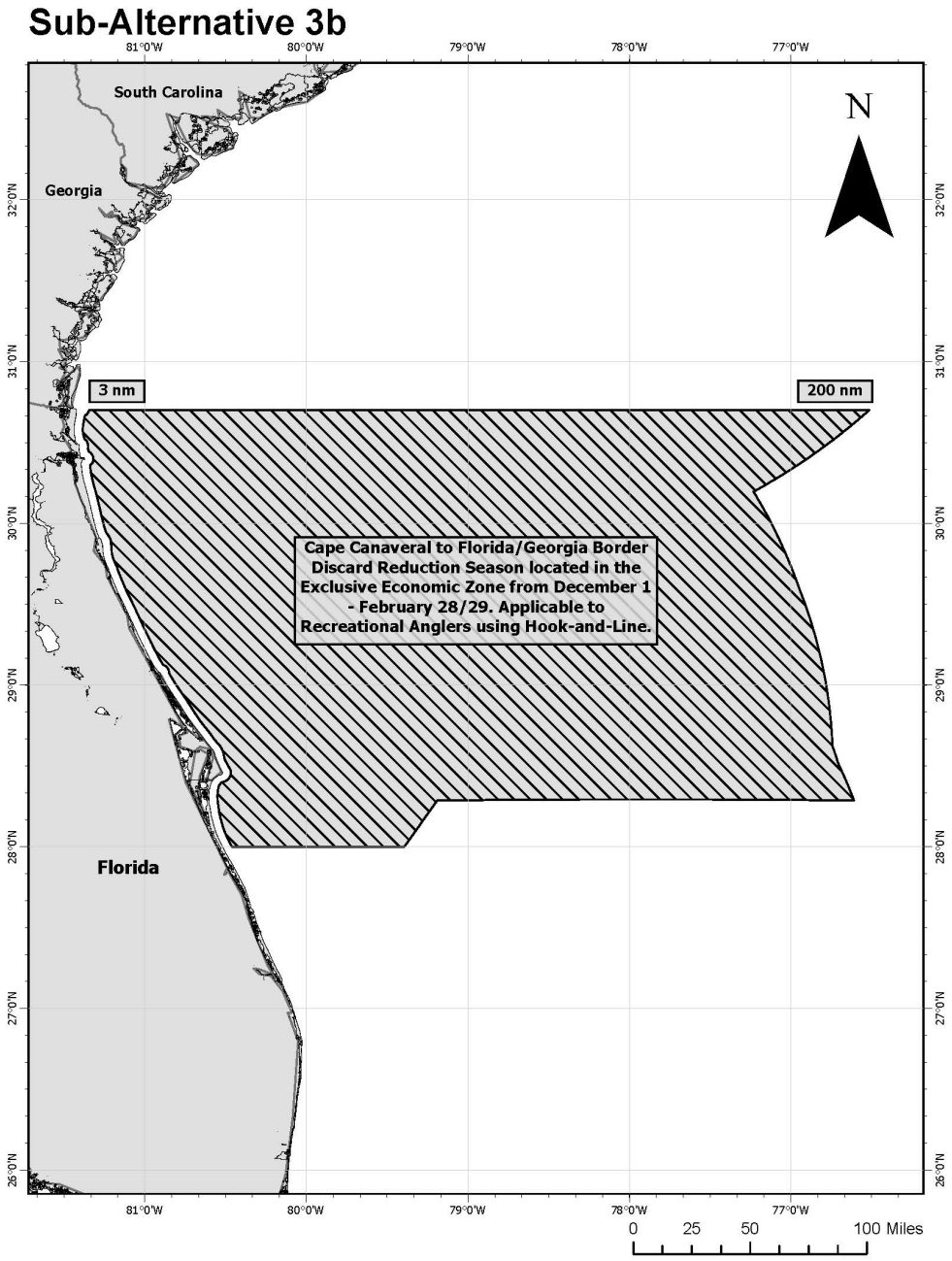



**Figure 2.4.4.** The location of the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 3b.

**Alternative 4.** Establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 32%.

In the areas described in Sub-Alternatives 4a and in the discard reduction area described in Sub-Alternative 4b, the prohibition on possession of snapper-grouper species by hook-and-line fishing gear (including trolling gear)does not apply to a person aboard a vessel that is in transit through the areas with hook-and-line fishing gear (including trolling gear) appropriately stowed. Transit means direct, non-stop progression through the area. Fishing gear appropriately stowed means terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck. This includes trolling activity when in possession of snapper-grouper species. Hook-and-line gear means one or more hooks attached to one or more lines (can include a troll).

**Sub-alternative 4a.** Establish four discard reduction areas for the recreational sector. In these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear).

The first area is in the exclusive economic zone off Jacksonville, Florida, between 30.4 and 30.7° N (30°24.0’ and 30°42.0’ N) latitudes and between the approximate depths of 70 to 110 ft. The second area is in the exclusive economic zone off St. Augustine, Florida, between 29.7 and 29.9° N (29°42.0’ and 29°54.0’ N) latitudes and between the approximate depths of 70 to 110 ft. The third area is in the exclusive economic zone off Daytona Beach, Florida, between 29.1 and 29.3° N (29°06.0’ and 29°18.0’ N) latitudes and between the approximate depths of 70 to 110 ft. The fourth area is in the exclusive economic zone off Cape Canaveral, Florida, between 28.4 and 28.7° N (28°24.0’ and 28°42.0’ N) latitudes and between the approximate depths of 70 to 110 ft. The areas are defined by the coordinates shown in Tables 2.4.8, 2.4.9, 2.4.10, and 2.4.11 and Figure 2.4.5.

**Table 2.4.8.** Boundary coordinates for the discard reduction area off Jacksonville, Florida, in Sub-alternative 4a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0’ N | 81°01.0’ W |
| 2 | 30°42.0’ N | 80°35.9’ W |
| 3 | 30°24.0’ N | 80°33.7’ W |
| 4 | 30°24.0’ N | 81°04.5’ W |

**Table 2.4.9.** Boundary coordinates for the discard reduction area off St. Augustine, Florida, in Sub-alternative 4a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 29°54.0’ N | 81°02.6’ W |
| 2 | 29°54.0’ N | 80°40.8’ W |
| 3 | 29°42.0’ N | 80°30.6’ W |
| 4 | 29°42.0’ N | 80°59.0’ W |

**Table 2.4.10.** Boundary coordinates for the discard reduction area off Daytona Beach, Florida, in sub-alternative 4a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 29°18.0’ N | 80°49.8’ W |
| 2 | 29°18.0’ N | 80°21.8’ W |
| 3 | 29°06.0’ N | 80°20.4’ W |
| 4 | 29°06.0’ N | 80°43.3’ W |

**Table 2.4.11.** Boundary coordinates for the discard reduction area off Canaveral, Florida, in sub-alternative 4a.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 28°42.0’ N | 80°22.5’ W |
| 2 | 28°42.0’ N | 80°17.5’ W |
| 3 | 28°24.0’ N | 80°14.7’ W |
| 4 | 28°24.0’ N | 80°20.1’ W |

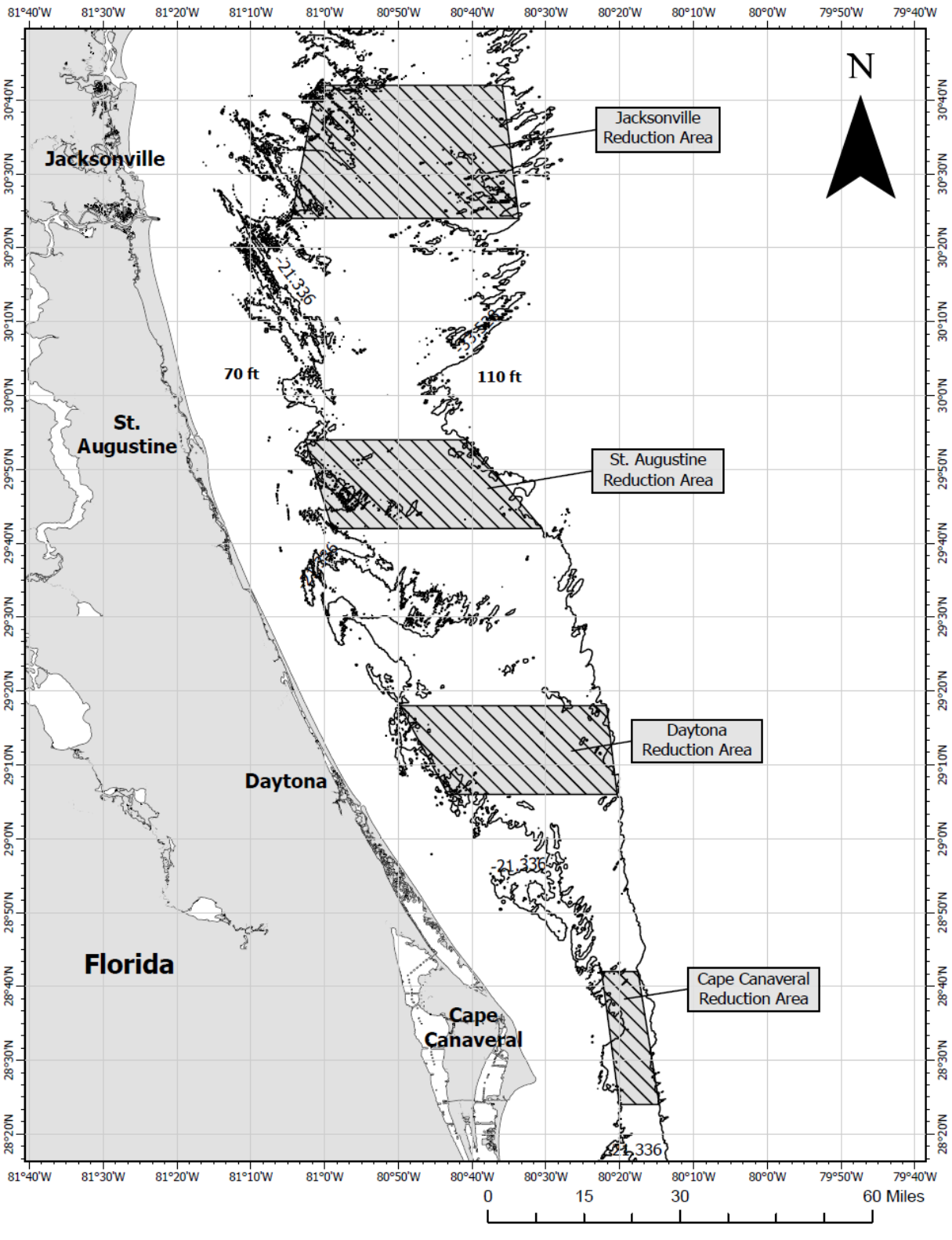

Sub-Alternative 4a
N
Jacksonville
Jacksonville Reduction Area
70 ft
110 ft
St. Augustine
St. Augustine Reduction Area
Daytona
Daytona Reduction Area
Florida
Cape Canaveral
Cape Canaveral Reduction Area
21,336
0
15
30
60 Miles

**Figure 2.4.5.** The discard reduction area off Jacksonville, St. Augustine, Daytona Beach, and Cape Canaveral Florida, in Sub-alternative 4a**.**

**Sub-alternative 4b.** Establish a discard reduction season and discard reduction area for the recreational sector. During January 1 through the end of February each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone any species in the Snapper-Grouper Fishery Management Unit.

Establish a discard reduction area for the recreational sector year-round. In this area, no private recreational or for-hire fisherman may fish for, harvest, or possess, a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear (including trolling gear). In this area, the prohibition on possession of snapper-grouper species by hook-and-line fishing gear (including trolling gear) does not apply to a person aboard a recreational vessel that is in transit with hook-and-line fishing gear (including trolling gear) appropriately stowed.

The area is in the exclusive economic zone off Jacksonville, Florida, between 30.3 and 30.7° N (30°18.0’ and 30°42.0’ N) latitudes and between the approximate depths of 80 to 150 ft. The area is defined by the coordinates shown in Table 2.4.12 and Figure 2.4.6.

**Table 2.4.12.** Boundary coordinates for the discard reduction area off Jacksonville, Florida in Sub-alternative 4b.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42’ N | 80°51.0’ W |
| 2 | 30°42’ N | 80°09.2’ W |
| 3 | 30°18’ N | 80°17.7’ W |
| 4 | 30°18’ N | 80°56.9’ W |

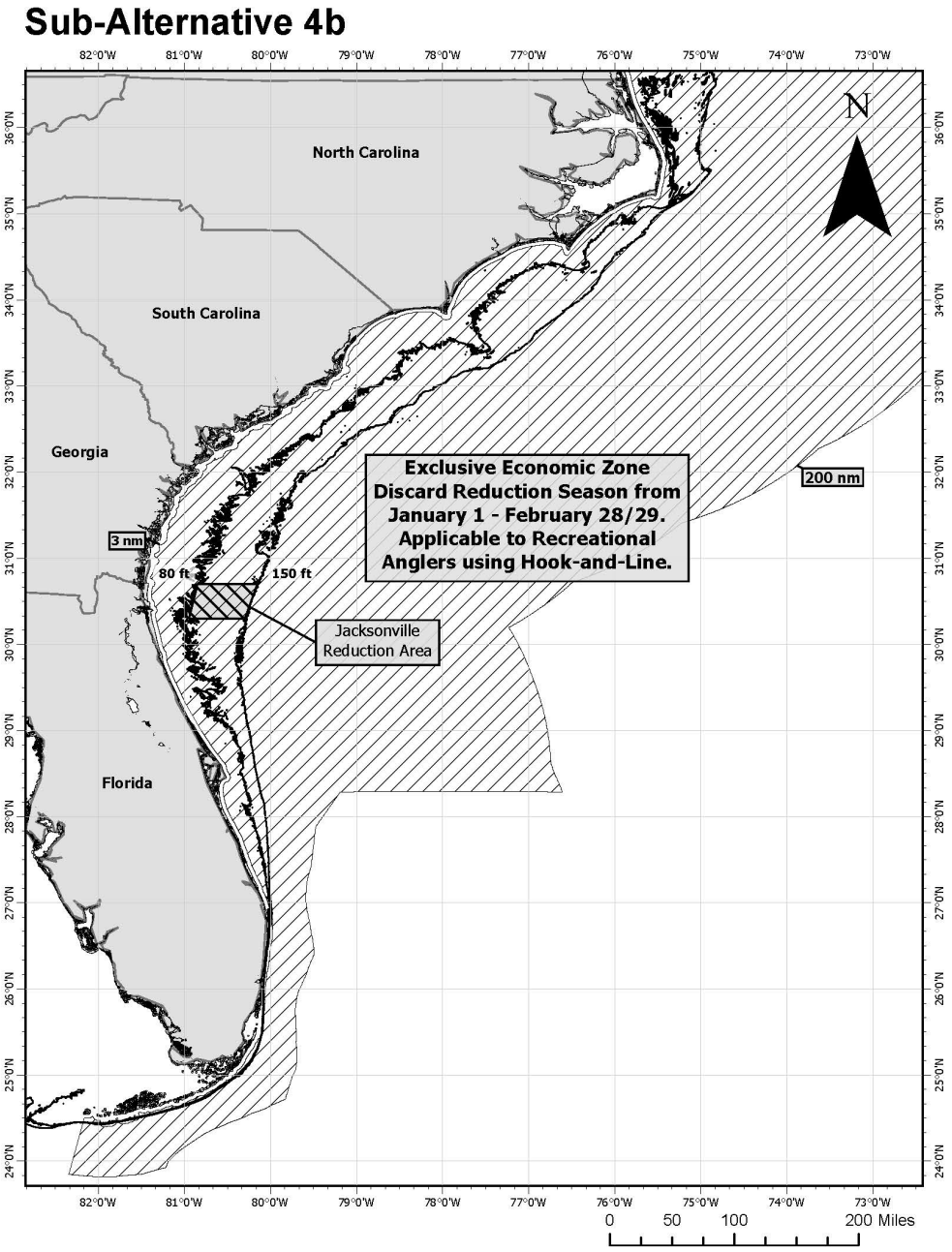



**Figure 2.4.6.** Location of the discard reduction area off Jacksonville, Florida, in Sub-alternative 4b.

Table 2.4.13 shows a summary of the discard reduction seasons and areas and the percent reduction in red snapper discards expected from the alternatives considered under Action 4.

**Table 2.4.13**. A summary to illustrate the discard reduction seasons and areas and the percent reduction in red snapper discards expected. FL/GA=Florida/Georgia border, JAX=Jacksonville,

ST.AUG=St. Augustine, DAYBEA=Daytona Beach, CC=Cape Canaveral. The preferred alternative is bolded.

| Alt | Temporal | Spatial | | Percent reduction |
|---|---|---|---|---|
| | | Location | Appx Depth (ft) | |
| 2 | Establish management measures for the recreational sector to reduce dead discards of red snapper by at least 16%. | | | |
| 2a | | JAX CC | 80-150 | 16% |
| 2b | Close EEZ from 28 degrees to FL/GA line from Jan 1. through Feb. 14 each year | | | 17% |
| **3** | **Establish management measures for the recreational sector to reduce dead discards of red snapper by at least 24%.** | | | |
| 3a | | JAX ST.AUG CC | 80-150 | 25% |
| **3b** | **Close EEZ from 28 degrees to FL/GA line from Dec. 1 through Feb. 28/29 each year** | | | **26%** |
| 4 | Establish management measures for the recreational sector to reduce dead discards of red snapper by at least 32%. | | | |
| 4a | | JAX ST.AUG DAYBEA CC | 70-110 | 32% |
| 4b | | JAX | 80-150 | 33% |
| | Close entire EEZ from Jan. 1 through Feb. 28/29 each year | | | |
| Note: Sub-alternative 4B consists of both a discard reduction season (Jan and Feb each year for the entire South Atlantic EEZ) and a discard reduction area off Jacksonville year-round. | | | | |

***Discussion***

Amendment 59 would establish a discard reduction season under **Preferred Alternative 3b** for the South Atlantic snapper-grouper recreational sector, which is expected to reduce dead discards of red snapper by at least 24 percent from current levels. The selection of this specific area and time component for the discard reduction season allows the target reduction in dead discards to be achieved, while minimizing the geographic size and temporal scope of the area in the South Atlantic EEZ. Recreational dead discards represent the primary source of mortality for red

snapper, and catch estimates off Florida accounted for 87 percent of the South Atlantic dead discards during 2021-2023. Under **Preferred Alternative 3b** in the area described below, from January 1 through the end of February and from December 1 through December 31, annually, (i.e. from December through February) no private recreational or for-hire fisherman would be allowed to fish for, harvest, or possess a species in the South Atlantic snapper-grouper fishery management unit (FMU) from the South Atlantic EEZ that were harvested with hook-and-line fishing gear (including trolling gear). As defined at 50 C.F.R. part 600.10, hook-and-line gear means one or more hooks attached to one or more lines (can include a troll). The snapper-grouper FMU, described in 50 C.F.R. part 622, Table 2 to Appendix A, consists of 55 species and many of these species are known to co-occur with red snapper such as black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper, and gray triggerfish. Generally, the discard reduction season's closed area is all South Atlantic EEZ waters bounded to the north by the Florida/Georgia state border and to the south by Cape Canaveral, Florida. For reference, Figures 2.1.1.-2.1.6. provide a graphical representation of the various alternatives to illustrate the location of the various discard reduction seasonal and closed areas considered in this amendment.

For nearly all of the snapper-grouper discard reduction seasons and areas considered, the prohibition on the possession of snapper-grouper species using hook-and-line fishing gear (including trolling gear) does not apply to a recreational vessel that is in transit and with fishing gear appropriately stowed. Transit means direct, non-stop progression through the area. Appropriately stowed means that terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. Additionally, a rod and reel must be removed from the rod holder and stowed securely on or below deck.

### 2.4.1 Comparison of Alternatives

**Alternative 1 (No Action)** would not establish new management measures for the recreational sector to achieve dead discard targets for red snapper. Discards of red snapper would continue to be very high due to fishermen targeting co-occurring species, particularly outside of the short red snapper fishing season. Bycatch of red snapper is commonly associated with catches of black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper, and gray triggerfish. **Alternative 1 (No Action)** would continue to result in very short directed fishing seasons for red snapper as most mortality would be associated with dead discards. **Alternative 2** through **Alternative 4**, and their associated sub-alternatives, would be expected to have beneficial biological, social, and economic effects due to reduced discards in specific areas and/or at specific times. For the alternatives being considered, each sub-alternative would be expected to achieve the same level of discard reduction and the difference in effects between them would be minimal. For example, under **Alternative 2**, all of the sub-alternatives would be expected to achieve discard reductions of about 16-17%, through the combination of year-round location based discard reduction zones or temporal based discard reduction zones. **Alternative 3** and associated sub-alternatives would achieve about 24-25% reduction in discards. **Alternative 4**, **Sub-alternative 4c** would provide the greatest reduction in discards (35%) followed by **Alternative 4**, **Sub-alternative 4b (33%)** and **Alternative 4**, **Sub-alternative 4a (32%)**. No economic effects are expected from **Alternative 1 (No Action)**. As shown in Table 4.4.2.5, the total change in net economic benefits for the recreational sector from **Preferred Sub-**

**Alternative 3** is estimated to be approximately -$19.2 million (2023 $). The change in net economic benefits for the other alternatives range from -$11.5 million to -$66.5 million (Table 4.4.2.5).

**Action 1 (No Action)** would not establish discard reduction areas in order to achieve dead discards for red snapper. **Alternatives 2** through **4** include area closures (geographic areas at certain latitudes and depths, varying by alternative) and time period closures (year round or closed during specific times during the year, varying by alternative) for fishing for, harvesting, or possessing recreational snapper-grouper while using hook-and-line gear in order to achieve reductions of dead discards for red snapper. Discard reduction areas that are limited to certain time periods, rather than year round, such as those in **Sub-Alternative 2b** (January 1 to February 14), **Preferred Sub-Alternative 3b** (December 1 to February 28/29), and **Sub-Alternative 4b** (January 1 to February 28/29) could be less impactful to communities and fishing participants, particularly because these winter months historically have included less fishing effort than other months during the year**.** Discard reduction areas in separate and distinct areas located off the coast of certain locations (such as **Sub-Alternative 2a**, **Sub-Alternative 3a**, and **Sub-Alternative 4a**) could appear to create fairness and equity issues through unequal opportunities to access the resource, with impacts centralized in the coastal counties and communities nearby to those areas. Conversely, discard reduction areas with greater and continuous latitude ranges (such as **Sub-Alternative 4b**, which includes the greatest latitude range, followed by **Sub Alternatives 2b** and **Preferred Sub-Alternative 3b**, which include the same latitude range) would impact a greater number of counties and their associated communities; however this could act in practice and be perceived as less unfair and unequal because the burden of a closed area is spread throughout more geographic areas. Selection of **Preferred Alternative 3b** allows the target reduction in dead discards to be achieved, while minimizing the geographic size and temporal scope of the area in South Atlantic waters.

Compared with **Alternative 1 (No Action)**, **Alternatives 2** through **4**, including the sub-alternatives, would have impacts on enforcement as establishment of discard reduction areas and times would require more surveillance effort which is resource intensive. The areas described in **Alternatives 2** through **4** appear to require at-sea enforcement and would be difficult to enforce dockside. For recreational fishermen, the discard reduction areas would allow transit under certain conditions and would allow harvest, possession, and retention of species in the snapper-grouper complex by gears other than hook and line gear. These allowances for transit would decrease the enforceability of the restrictions in these areas and increase the burden on enforcement to prove all of the required elements of a violation. A high burden would be associated with enforcement having to prove where a snapper-grouper complex species was caught, the type of gear used, the transit status of vessel and if gear was appropriately stowed.

## 2.5 Action 5. Modify Commercial Management Measures to Further Optimize Yield

### 2.5.1. Sub-Action 5a. Increase the Commercial Trip Limit for Red Snapper

**Alternative 1.** (No Action) During the commercial season, the trip limit is 75 pounds gutted weight.

**Alternative 2.** Increase the commercial trip limit to 100 pounds gutted weight.

**Preferred Alternative 3.** Increase the commercial trip limit to 150 pounds gutted weight.

**Alternative 4.** Increase the commercial trip limit to 200 pounds gutted weight.

***Discussion***

**Alternative 1 (No Action)** would retain the 75 pounds (lbs) gutted weight (gw) trip limit that was put into place through the final rule for Amendment 28 to the Snapper-Grouper FMP (SAFMC 2013). This trip limit was selected to slow the rate of harvest, increase the probability that the ACL would not be met during the season, and decrease the direct targeting of red snapper while reducing dead discards.

**Alternatives 2** through **4** would increase the commercial trip limit for red snapper from the current 75 lbs gw to as great as 200 lbs gw. Predicted closure dates under the alternatives are shown in Section 4.5. For the commercial ACL resulting from the preferred alternative in Action 3, the length of the commercial fishing season for red snapper would be greatest under **Alternative 1 (No Action)**, extending 146 days (Nov 30**)**, and least under **Alternative 4**, extending 76 days (September 10). Under all the other ACL alternatives in Action 3, the commercial sector would close as early as August 24 (48 days) and as late as December 20 (166 days) under the trip limit alternatives in this action.

#### 2.5.1.1. Comparison of Alternatives

The biological effects of the **Alternatives 2** through **4** proposed in Action 5a would be expected to be neutral compared with **Alternative 1 (No Action)**, because ACLs and AMs are in place to cap harvest, and take action if ACLs are exceeded. Alternatives with larger trip limits could present a greater biological risk to red snapper in terms of exceeding the ACL since the rate of harvest would be greater. However, the quota monitoring system is able to track commercial landings closely and overages of the commercial ACL in recent years has been small, ranging from 1-8% of the commercial ACL. Larger trip limits increase economic efficiency, but result in earlier commercial closures of red snapper, which can lead to increased out-of-season regulatory discards. However, regulatory discards when the commercial red snapper season is open can also be high with smaller trip limits since red snapper co-occur with many other snapper-grouper species that are targeted by commercial fishermen such as black sea bass, vermilion snapper, and gag. Therefore, little difference in the biological effects of the trip limit alternatives would be expected.

Based on the magnitude of the commercial red snapper ACL being considered from **Action 3**, it is estimated that **Action 5a, Preferred Alternative 3** and the other alternatives would all allow the commercial sector to harvest the totality of its allotted ACL. Therefore, changes in aggregate annual ex-vessel revenues would not be expected to result from these alternatives. In general, a less restrictive commercial trip limit may, however, increase economic efficiency on trips, which would lead to an increase in Producer Surplus (PS). These effects cannot be quantified with existing data, however the benefits would be greatest under **Alternative 4**, followed by **Preferred Alternative 3, Alternative 2, and Alternative 1**.

It is generally assumed that an increase in trip limit harvest levels would result in positive social effects for fishermen; however, it is not known how fishing behavior might change with an increase in trip limits from 75 lbs gw to 100 lbs gw in **Alternative 2**, 150 lbs gw in **Preferred Alternative 3**, or 200 lbs gw in **Alternative 4**. Positive effects could include an increase in profitability for fishermen by allowing for higher retention and improved profitability of trips. Higher trip limits might also be used by fishermen for bycatch when targeting other snapper-grouper species, which could help to reduce the discards of red snapper by allowing more fish to be retained overall. Conversely, with a larger trip limit negative effects could include more fish entering seafood markets, which could reduce the price fishermen receive for their catch. Also, the commercial sector could experience an earlier closure because the ACL is met faster with a higher trip limit, which can also generate negative effects among participants in the commercial sector. In combination with **Preferred Alternative 3** in Action 3, seasons are projected to be longer than recent commercial seasons based on the status quo commercial ACL.

Because there is already a trip limit in place, there would be little difference in the administrative impacts of **Alternatives 2** through **4**. The administrative and law enforcement resources currently used to implement and enforce the 75 lbs gw commercial trip limit would be the same as those needed to implement and enforce the increase in trip limits proposed by **Alternatives 2** through **4**. Higher trip limits could have slightly greater administrative effects because they increase the likelihood that the commercial ACL or quota would be met and a commercial closure would occur.

### 2.5.2 Sub-Action 5b. Modify the Commercial Fishing Season for Red Snapper

**Alternative 1.** (No Action). The commercial fishing season begins each year on the second Monday in July.

**Preferred Alternative 2.** Modify the start of the commercial fishing season to May 1 beginning in 2026.

**Alternative 3.** Modify the start of the commercial fishing season to June 1 beginning in 2026.

***Discussion***

The final rule for Amendment 28 to the Snapper-Grouper FMP specified that the commercial fishing season would begin at 12:01 a.m. on the second Monday in July (**Alternative 1 (No Action)**). The Council concluded that a July opening would decrease the chances of inclement weather events; thus, promoting safety at sea and increasing the chance of small vessels participating in the red snapper portion of the snapper-grouper fishery. Beginning in 2026, **Alternatives 2** and **3** would start the commercial fishing season to begin either May 1 or June 1, respectively. Changes in the season start date to May or June could not be implemented until 2026 since Amendment 59 would not be expected to be implemented, if approved, by May 1 or June 1, 2025. Moving the season to begin in May or June would still allow for good weather when fishing, and allow for more days of fishing before the peak of hurricane season in fall. Modifying the commercial season to precede the recreational season may also reduce red snapper encounter rates, and consequently recreational discards, during the recreational season if commercial fishermen harvest red snapper in areas also fished by recreational anglers. Moving the commercial season to May 1, as specified in **Preferred Alternative 2**, would align with the opening of shallow-water grouper, which are commonly caught with red snapper. The Council has previously acknowledged that allowing commercial harvest of red snapper at the same time shallow-water grouper harvest opens on May 1 (as proposed under **Preferred Alternative 2**) would help reduce discards of red snapper in some areas. A May 1 start date was also recommended by some of the Council's Snapper-Grouper Advisory Panel members in October 2024.

#### 2.5.2.1 Comparison of Alternatives

The biological benefits of **Alternatives 1 (No Action)**, **2**, and **3** would be expected to be similar since harvest would be controlled by ACLs, and AMs would be implemented if the ACL was expected to be met or was exceeded. In addition, the red snapper spawning season is from May through October with peaks in June through August, and all three alternatives would allow for harvest of red snapper during their spawning season.

NMFS does not possess the data to directly determine whether any precise differences in economic benefits are expected from when the season starts on any of these three alternative dates. **Preferred Alternative 2** would modify the start of the commercial fishing season to May

1 beginning in 2026. May 1st aligns with opening of the commercial shallow-water groupers, which could lead to an increase in PS on trips that target shallow-water groupers early in the season due to increased economic trip efficiency from landing more red snapper and shallow-water groupers jointly. **Preferred Alternative 2** may also aid in reducing dead discards of red snapper in some areas during the shallow-water grouper season, resulting in faster rebuilding, higher future catch rates, and higher indirect economic benefits. **Preferred Alternative 2** may also aid in the rebuilding of red snapper by allowing commercial harvest of red snapper prior to their peak spawning season of July and August.

Among the action alternatives, **Preferred Alternative 2** could generate the greatest social benefits when combined with an increased ACL for commercial red snapper because of the opportunity for more days of fishing in good weather and a season that aligns with the shallow-water grouper season, followed by **Alternative 3**. However, some fishermen operate under individual business models that depend on red snapper harvest during particular months, including the mid- and late summer months, and therefore prefer the current start of the season specified in **Alternative 1 (No Action)**.

There would be no difference in the administrative effects of **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 3**. The action alternatives would simply change the start date for the commercial fishing season. Under all three alternatives, NMFS would monitor the landings and then close the commercial fishing season when the commercial ACL for red snapper is expected to be met.

## 2.6 Action 6. Modify the Recreational Fishing Season for Red Snapper to Further Increase Fishing Opportunities/Optimize Yield

**Alternative 1 (No Action).** The recreational season, which consists of weekends only (Fridays, Saturdays, and Sundays) begins on the second Friday in July, unless otherwise specified.

**Alternative 2.** Modify the recreational fishing season to begin on the second Friday in June. The season would consist of Fridays, Saturdays, and Sundays beginning in 2026.

**Preferred Alternative 3.** Modify the recreational fishing season to begin on the second Saturday in June. The season would consist of Saturdays and Sundays beginning in 2026.

**Preferred Alternative 4.** Modify the recreational fishing season to begin on the second Saturday in July. The season would consist of Saturdays and Sundays beginning in 2025.

Note: For Alternatives 2 through 4 above, 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). This change would allow the NMFS Southeast Regional Office Regional Administrator (RA) the authority to modify the opening and closing dates of the recreational fishing season or reopen the recreational fishing season at a later date, including off a specific South Atlantic state, if adverse weather conditions classified by the National Weather Service at least as severe as a small craft advisory exist, or are projected to exist, in the South Atlantic exclusive economic, during the recreational red snapper fishing season. See 50 C.F.R. § 622.2 for these South Atlantic state definitions. This proposed action may help minimize the adverse effects to fishermen's safety from a short recreational season.

***Discussion***

The current recreational season for red snapper specified under **Action 1 (No Action)** consists of weekends only (Fridays, Saturdays, and Sundays) and begins on the second Friday in July, unless otherwise specified. The current three-day season was specified through the final rule for Amendment 28 to the Snapper-Grouper FMP. **Alternatives 2** through **4** would change the start of the recreational fishing season for red snapper. **Alternative 2** would specify a three-day weekend fishing season for red snapper beginning on the second Friday in June 2026. Under **Alternative 3**, the fishing season for red snapper would consist of Saturdays and Sundays beginning on the second Saturday in June 2026. **Alternative 4** would modify the recreational fishing season for red snapper to be Saturday and Sunday, beginning on the second Saturday in July 2025. Any changes in the season start date to June could not be implemented until 2026 since Amendment 59 would not be expected to be implemented, if approved, by June 1, 2025.

### 2.6.1. Comparison of Alternatives

The biological effects of **Alternatives 1 (No Action)** through **Alternative 4** are expected to be similar since the ACL would be the same under all alternatives. Regardless of the alternative selected, the length of the red snapper season would be projected by NMFS based on prior year landings, catch rates, and/or comparisons of projected vs. actual indices of abundance. In addition, the spawning season for red snapper extends from May to October; thus, the biological

effects of the start dates specified in the alternatives would be similar. **Preferred Alternatives 3** and **4** would both extend the fishing season over more weekends than **Alternatives 1** or **2**, which may benefit safety at sea by spreading out fishing effort during the recreational season and allowing for angler fishing opportunities to occur over a longer period of time.

Estimating the differences in net economic benefits depending on whether the season starts on any of these three alternative dates is not possible. Information, such as whether Consumer Surplus (CS) values vary on a seasonal basis, is not available for use in estimating the differences in net economic benefits in the **Alternatives** of **Action 6**. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the net economic benefits may differ between the alternatives. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4 relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season in July or August (**Preferred Alternative 4**) would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort. Additional for-hire trips would generate additional PS. However, individual for-hire businesses may have different preferences for start dates and red snapper catch and catch effort are at their peak in May-June (**Preferred Alternative 3** and **Alternative 2**), so it is possible that economic benefits to the recreational sector could be greater if the season were opened earlier in the year such as would be under **Preferred Alternative 3** and **Alternative 2.**

As mentioned in Section 4.6.2, participation in the red snapper portion of the recreational snapper grouper fishery (as gauged by catch, catch effort, and target effort) is greater during wave 4 (July and August), than during wave 3 (June), with target effort highest in wave 4, relative to other waves. These waves also correspond to the start of the summer, when children are off from school and more people take time off work for vacation. When past participation and busy fishing times of the year are considered along with days of the weekend that provide the greatest and most extended access to recreational red snapper fishing, **Preferred Alternative 3** and **Preferred Alternative 4** could provide fishing opportunities to the greatest number of participants, followed by **Alternative 2**. Social benefits are expected throughout communities engaged in the recreational harvest of red snapper (Section 3.4); however benefits for individual communities would vary based on when participation in the fishery is most extensive in that community.

Administrative burden would be higher under **Preferred Alternative 4**, **Alternative 3**, and **Alternative 2** compared with **Alternatives 1 (No Action)**. Under all four alternatives, NMFS would project when the recreational ACL for red snapper is expected to be met. A temporary rule and a fishery bulletin would be issued to announce the opening and closing dates of the recreational fishing season. It is possible that there could be an additional burden on law enforcement with differing openings or closing off a specific state due to a small craft advisory, and this could possibly divert at-sea resources if varying closures among states require U.S. Coast Guard search and rescue missions. However, spreading the recreational fishing seasons over more weekends would reduce the derby-style race-to-fish that has happened in the past, which could eliminate U.S. Coast Guard search and rescue missions.

## 2.7 Action 7. Establish an Annual Experimental Studies Program

**Alternative 1 (No Action).** Do not establish an annual experimental studies program. Requests to conduct experimental studies would be evaluated on an ad-hoc basis for consistency with the Magnuson-Stevens Fishery Conservation and Management Act and other applicable law.

**Alternative 2.** Establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. Project proposals would be evaluated based on a fixed schedule to be developed by the National Marine Fisheries Service. Approved projects would authorize a total or combined amount of red snapper not to exceed the amount of the difference between the acceptable biological catch and total annual catch limit chosen in Actions 2 and 3.

**Preferred Alternative 3.** Establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. Project proposals would be evaluated based on a fixed schedule to be developed by the National Marine Fisheries Service. Approved projects would authorize a total or combined amount of red snapper not to exceed 10,000 fish or the amount of the difference between the acceptable biological catch and total annual catch limit chosen in Actions 2 and 3, whichever is less.

***Discussion***

In 2024, NMFS allocated $879,211 to support five projects that aim to identify and test new strategies to improve the status of red snapper and increase fishing opportunities in the snapper-grouper fishery by reducing the proportion of red snapper discards relative to landed catch. NMFS selected these projects for funding following a competitive grant process that was initiated with the publication of a Notice of Funding Opportunity on September 7, 2023. Project awardees include the Florida Fish and Wildlife Conservation Commission (FWC) (3 projects totaling $520,862), South Carolina Department of Natural Resources ($209,683), and Mote Marine Laboratory, Inc. ($148,666). Experimental projects by FWC began in late-summer 2024 and are testing innovative ways to reduce red snapper dead discards including testing aggregate bag limits for snapper-grouper and full retention limits. For more information about these projects visit: https://myfwc.com/fishing/saltwater/recreational/atlantic-red-snapper-efp/.

Action 7 proposes to continue this type of collaborative, exploratory work through the creation of an Experimental Studies Program, which would establish a set process and schedule for requesting and evaluating related proposals on an annual basis. Specific program requirements would be outlined in annual announcements, and consistent with those established for scientific research activity, exempted fishing, and exempted educational activity at 50 C.F.R. § 600.745. Because NMFS does not have dedicated funding to commit to an Experimental Studies Program on an annual basis, applicants would be responsible for covering the costs of any proposed projects that NMFS approved; except in years during which NMFS identified and allocated specific funds for this purpose. However, NMFS would authorize such projects to harvest a total or combined amount of red snapper that would otherwise be prohibited (i.e., exceed the total

ACL established by the preferred alternative in Action 3). The amount of red snapper that could be authorized in a given year would depend on the size of the buffer between the ABC and ACL. The only difference between **Alternative 2** and **Preferred Alternative 3**, is the cap of 10,000 fish allotted for projects included in **Preferred Alternative 3**. How those fish are distributed among approved projects would depend on the type and number of projects that are approved.

An example of the annual process for the Experimental Studies Program could be as follows: Early Summer: NMFS publishes an announcement describing specific program priorities and requesting proposals.

Late Summer/Early Fall: NMFS evaluates all complete proposals for consistency with the Magnuson-Stevens Act and other applicable laws; reviews any related exempted fishing permit (EFP) applications with the Council; and publishes a *Federal Register* notice requesting public comments on any EFP applications. Proposals that are determined to be appropriate for further consideration are independently reviewed and scored by at least three reviewers, based on their consistency with the priorities and criteria outlined in the program announcement.

Late Fall: The NMFS Southeast Regional Administrator ranks the proposals based on reviewer input, distributes red snapper among projects accordingly, announces approved projects, and issues any related EFPs. All approved studies begin and end during the following fishing year as defined by the preferred alternative in Action 8.

### 2.7.1 Comparison of Alternatives

**Alternative 1 (No Action)** would not establish an annual Experimental Studies Program for the South Atlantic red snapper fishery. Failing to establish such a program would not prevent NMFS from authorizing red snapper harvest that would otherwise be prohibited in accordance with scientific research, exempted fishing, or exempted educational activity requirements outlined at 50 C.F.R. § 600.745. However, NMFS would not proactively solicit such activities or review proposals using a predefined process and schedule, and public review and environmental compliance requirements for such projects would be addressed on an individual, ad hoc basis.

**Alternative 2** would establish an annual Experimental Studies Program as outlined above and restrict the amount of red snapper that NMFS could authorize to support such a program to between 4,000 fish and 55,000 fish, depending on the size of the ABC-ACL buffer created by the preferred alternatives in Actions 2 and 3 (see Table 2.7.1.1).

**Table 2.7.1.1.** Total amount of red snapper that could be authorized under an Experimental Studies Program if Action 7, if Alternative 2 is identified as preferred in Action 7, based on the preferred ABC and ACL alternatives in Actions 2 and 3.

| **ACL** | **ABC Action 2, Alt 2 509,000 fish** | **ABC Action 2, Alt 3 464,000 fish** |
|---|---|---|
| Action 3, Alt 2 – 505,000 fish | 4,000 fish | n/a |
| Action 3, Alt 2 – 464,000 fish | 45,000 fish | n/a |
| Action 3, Alt 3 – 500,000 fish | 9,000 fish | n/a |

| ACL | ABC Action 2, Alt 2 509,000 fish | ABC Action 2, Alt 3 464,000 fish |
|---|---|---|
| Action 3, Alt 3 – 459,000 fish | 50,000 fish | 5,000 fish |
| Action 3, Alt 4 – 496,000 fish | 13,000 fish | n/a |
| Action 3, Alt 4 – 454,000 fish | 55,000 fish | 10,000 fish |

**Preferred Alternative 3** would establish an annual Experimental Studies Program as outlined above and restrict the amount of red snapper that NMFS could authorize to support such a program to no more than 10,000 fish, which is slightly lower than the amount of fish NMFS approved for the exempted fishing permits issued in 2024 (13,200 fish). The actual amount allotted to the program under this alternative would depend on the size of the ABC-ACL buffer created by the preferred alternatives in Actions 2 and 3 (see Table 2.7.1.2) and would range from 4,000 to 10,000 fish. If **Alternative 2** and **Alternative 3** are selected as preferreds in **ABC Action 2** and **ACL Action 3**, respectively, then the amount of red snapper that could be authorized to support an experimental studies program under **Preferred Alternative 3** would be capped at 9,000 fish.

**Table 2.7.1.2.** Total amount of red snapper that could be authorized under an Experimental Studies Program under Preferred Alternative 3 in Action 7, based on the preferred ABC and ACL alternatives in Actions 2 and 3.

| ACL | ABC Action 2, Alt 2 509,000 fish | ABC Action 2, Alt 3 464,000 fish |
|---|---|---|
| Action 3, Alt 2 – 505,000 fish | 4,000 fish | n/a |
| Action 3, Alt 2 – 464,000 fish | 10,000 fish | n/a |
| Action 3, Alt 3 – 500,000 fish | 9,000 fish | n/a |
| Action 3, Alt 3 – 459,000 fish | 10,000 fish | 5,000 fish |
| Action 3, Alt 4 – 496,000 fish | 10,000 fish | n/a |
| Action 3, Alt 4 – 454,000 fish | 10,000 fish | 10,000 fish |

Alternatives that would authorize the smallest amount of red snapper to support an experimental studies program would provide the greatest near term conservation benefit by preserving the largest buffers between the ABC and ACL, and, consequently, the greatest assurance that the stock would be resilient to any unexpected impacts if management measures do not perform as well as expected. **Preferred Alternative 3** would limit fishing mortality resulting from the experimental studies program by capping the total amount of red snapper that could be authorized for that purpose to 10,000 fish, thereby providing greater near-term biological benefits to the stock relative to **Alternative 2**, which could allow up to five times as many fish be authorized for use in experimental studies. However, establishing a more systematic and collaborative process and program to test new strategies for reducing dead discards in the red snapper and other snapper-grouper fisheries would be expected to generate valuable data and knowledge that can be applied to more expeditiously achieve spawning stock biomass rebuilding goals while increasing the socioeconomic benefits of stock rebuilding. And **Alternative 2** could support a larger number of more substantial projects relative to **Preferred Alternative 3**.

NMFS does not possess the data necessary to estimate the overall direct changes to net economic benefits from an Annual Experimental Studies Program. However, some indirect changes to net

economic benefits can be expected from **Alternatives 2** and **3**. An annual experimental studies program has the potential to generate substantial economic benefits for the commercial and recreational sectors that participate in the snapper grouper fishery. By testing new management strategies on an experimental basis, an annual experimental studies program will generate valuable data and institutional knowledge that expands the range of viable management approaches. This, in turn, should be expected to improve net economic benefits for both the recreational and commercial sectors in the long run.

The nature and extent of social effects would depend on whether the studies included in the established experimental program would result in better management and/or information that leads to an increased availability of catch of red snapper for fishermen, and whether a reduced buffer results in negative impacts to the red snapper stock because the ABC and/or OFL is exceeded. Communities where residents and visitors are most extensively engaged in red snapper fishing (Section 3.4) would be expected to benefit or be negatively impacted to the greatest degrees by this action.

**Alternative 1 (No Action)** would not create an administrative burden of designing and implementing an experimental studies program as would **Alternative 2** and **Preferred Alternative 3**. However, **Alternative 2** and **Preferred Alternative 3** would be expected to streamline review of requests to conduct experimental studies that would otherwise be prohibited in accordance with scientific research, exempted fishing, or exempted educational activity requirements outlined at 50 C.F.R. § 600.745, ultimately reducing administrative burden and leading to more informed and effective decisions over the long term.

## 2.8 Action 8. Modify the Fishing Year for Red Snapper

**Alternative 1:** The South Atlantic red snapper fishing year is January 1 through December 31.

**Preferred Alternative 2:** Modify the South Atlantic red snapper fishing year to be May 1 through April 30.

**Alternative 3:** Modify the South Atlantic red snapper fishing year to be June 1 through May 31.

***Discussion***

The current fishing year for red snapper is the calendar year (**Alternative 1, No Action**). **Preferred Alternative 2** would align the start of the fishing year for red snapper with the ending of the current spawning season closure (January through April) for South Atlantic shallow-water groupers (SASWG) and greater amberjack (April 1-April 30). Establishing a May 1 start to the red snapper fishing year would also align with the May 1 proposed start of the commercial fishing season in Sub-Action 5b of Amendment 59. **Alternative 3** would also establish the start of the fishing year for red snapper when fishing for SASWG (closed season Jan 1-Apr 30 for all sectors), greater amberjack (closed season April 1-30 for all sectors), golden tilefish and snowy grouper species (recreational opening May 1) has started and include the time period when the proposed recreational fishing season would begin in 2025, 2026, and thereafter. (Action 6 in Amendment 59).

### 2.8.1 Comparison of Alternatives

Biological benefits across all three alternatives is expected to be comparable, since the change to the fishing year is administrative in nature. **Preferred Alternative 2** and **Alternative 3** would better align the start of the red snapper fishing year with the opening of seasons for species that co-occur with red snapper, including SASWG species such as gag, black grouper, red grouper, scamp, red hind, rock hind, yellowmouth grouper, yellowfin grouper, graysby, and coney. Several deepwater species, such as golden tilefish and snowy grouper also open recreationally May 1, and the start of their seasons would align with the new preferred fishing year. Benefits include consistency in when red snapper catches are accounted for and alignment of the red snapper fishing year with season openings for many other co-occurring snapper-grouper species.

Assuming that future landings would be similar to recent landings, **Preferred Alternative 2** would be expected to provide the greatest economic benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. Assuming that future catch rates would be similar to recent landings, and considering the proposed start dates of the commercial and recreational seasons (Sub-Action 5b and Action 6); of the action alternatives, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. The greatest benefits would be expected for Florida fishermen and associated communities, where catches are the greatest.

Assuming that future landings would be similar to recent landings, and considering the proposed start dates of the commercial and recreational seasons (Sub-Action 5b and Action 6); of the action alternatives, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. The greatest benefits would be expected for Florida fishermen and to lesser extent, Georgia fishermen and associated communities, where landings are the greatest (Section 3.4).

# Chapter 3. Affected Environment

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

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

## 3.1 Habitat Environment

Information on the habitat utilized by species managed under the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) is included in Volume II of the Fishery Ecosystem Plan (FEP II; SAFMC 2018) and in the SAFMC EFH User Guide (SAFMC 2024a), which are incorporated here by reference. South Atlantic Fishery Management Council (Council)-designated essential fish habitat (EFH) and EFH-Habitat Areas of Particular Concern (HAPC) are described in the SAFMC EFH User Guide and spatial representations of these and other habitat-related layers are in the Council's SAFMC EFH Mapper.

**Inshore/Estuarine Habitat**

Many snapper-grouper species utilize both pelagic and benthic habitats during several stages of their life histories; larval stages of these species live in the water column and feed on plankton. Most juveniles and adults are demersal (bottom dwellers) and associate with hard structures on the continental shelf that have moderate to high relief (e.g., coral reef systems and artificial reef structures, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings). Juvenile stages of some snapper-grouper species also utilize inshore seagrass beds, mangrove estuaries, lagoons, oyster reefs, and embayment systems. In many species, various combinations of these habitats may be utilized during daytime feeding migrations or seasonal shifts in cross-shelf distributions. The life history of red snapper is summarized in Section 3.2.1.

**Offshore Habitat**

Predominant snapper-grouper offshore fishing areas are located in live bottom and shelf-edge habitats where water temperatures range from 11º to 27º C (52º to 81º F) due to the proximity of

the Gulf Stream, with lower shelf habitat temperatures varying from 11º to 14º C (52º to 57º F). Water depths range from 16 to 55 meters (54 to 180 ft) or greater for live-bottom habitats, 55 to 110 meters (180 to 360 ft) for the shelf-edge habitat, and from 110 to 183 meters (360 to 600 ft) for lower-shelf habitat areas.

The exact extent and distribution of productive snapper-grouper habitat in South Atlantic continental shelf habitats is unknown. Current data suggest from 3% to 30% of the shelf is suitable habitat for these species. These live-bottom habitats may include low relief areas, supporting sparse to moderate growth of sessile (permanently attached) invertebrates, moderate relief reefs from 0.5 to 2 meters (1.6 to 6.6 ft), or high relief ridges at or near the shelf break consisting of outcrops of rock that are heavily encrusted with sessile invertebrates such as sponges and sea fan species. Live-bottom habitat is scattered irregularly over most of the shelf north of Cape Canaveral but is most abundant offshore from northeastern Florida. South of Cape Canaveral the continental shelf narrows from 56 to 16 kilometers (35 to 10 miles) wide off the southeast coast of Florida and the Florida Keys. The lack of a large shelf area, presence of extensive, rugged living fossil coral reefs, and dominance of a tropical Caribbean fauna are distinctive benthic characteristics of this area.

Rock outcroppings occur throughout the continental shelf from Cape Hatteras, North Carolina to Key West, Florida (MacIntyre and Milliman 1970; Miller and Richards 1979; Parker et al. 1983), which are principally composed of limestone and carbonate sandstone (Newton et al. 1971), and exhibit vertical relief ranging from less than 0.5 to over 10 meters (33 ft). Ledge systems formed by rock outcrops and piles of irregularly sized boulders are also common. Parker et al. (1983) estimated that 24% (9,443 $km^2$) of the area between the 27 and 101 meters (89 and 331 ft) depth contours from Cape Hatteras, North Carolina to Cape Canaveral, Florida is reef habitat. Although the bottom communities found in water depths between 100 and 300 meters (328 and 984 ft) from Cape Hatteras, North Carolina to Key West, Florida is relatively small compared to the whole shelf, this area, based upon landing information of fishers, constitutes prime reef fish habitat and probably significantly contributes to the total amount of reef habitat in this region.

Artificial reef structures are also utilized to attract fish and increase fish harvests; however, research on artificial reefs is limited and opinions differ as to whether or not these structures promote an increase of ecological biomass or merely concentrate fishes by attracting them from nearby, natural un-vegetated areas of little or no relief. There are several notable shipwrecks along the southeast coast in state and federal waters including *Lofthus* (eastern Florida), *SS Copenhagen* (southeast Florida), *Half Moon* (southeast Florida), *Hebe* (Myrtle Beach, South Carolina), *Georgiana* (Charleston, South Carolina), *U.S.S. Monitor* (Cape Hatteras, North Carolina), *Huron* (Nags Head, North Carolina), and *Metropolis* (Corolla, North Carolina).

The distribution of coral and live hard bottom habitat as presented in the Southeast Marine Assessment and Prediction Program (SEAMAP) bottom mapping project is a proxy for the distribution of the species within the snapper grouper complex. Maps are available on the South Atlantic Council's Habitat and Ecosystem Atlas.[5]

[5] http://ocean.floridamarine.org/safmc_atlas/

Plots of the spatial distribution of offshore species were generated from the Southeast Reef Fish Survey (SERFS), which includes the Marine Resources Monitoring, Assessment, and Prediction Program and the Southeast Fishery-Independent Survey. The plots serve as point confirmation of the presence of each species within the scope of the sampling program. These plots, in combination with the hard bottom habitat distributions previously mentioned, can be employed as proxies for offshore snapper-grouper complex distributions in the South Atlantic region. The figure below shows the distribution of red snapper collected with chevron trap by SERFS. Maps of the distribution of snapper-grouper species by gear type based on SERFS data can also be generated through the Council's Internet Mapping System at the SAFMC Digital Dashboard.

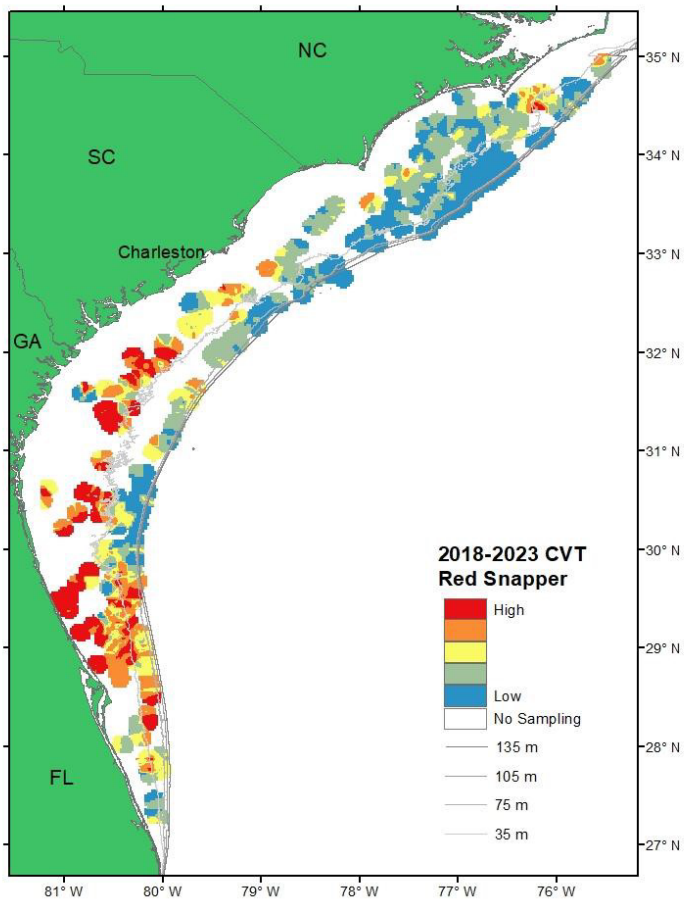



**Figure 3.1.2.1.** Distribution map of red snapper catch from chevron trap in 2018-2019 and 2021-2023 from the SERFS survey (Vecchio et al. 2024).

### 3.1.1 Essential Fish Habitat

EFH is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S. C. 1802(10)). Under the Magnuson-Stevens Act, FMPs are required to describe and identify EFH and to minimize the adverse effects of

fishing on such habitat to the extent practicable. Specific categories of EFH identified in the South Atlantic Bight, which are utilized by federally managed fish and invertebrate species, include both estuarine/inshore and marine/offshore areas. Specifically, estuarine/inshore EFH includes: estuarine emergent and mangrove wetlands, submerged aquatic vegetation, oyster reefs and shell banks, intertidal flats, palustrine emergent and forested systems, aquatic beds, and estuarine water column. Additionally, marine/offshore EFH includes: live/hard bottom habitats, coral and coral reefs, artificial and manmade reefs, *Sargassum* species, and marine water column.

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

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

### 3.1.2 Habitat Areas of Particular Concern

An EFH-HAPC designation adds an additional layer to the EFH designation. Under the Snapper-Grouper FMP, EFH-HAPCs are designated based upon ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of habitat type. EFH-HAPC for species in the Snapper-Grouper FMU in the Atlantic include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; near shore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper-grouper (e.g., primary and secondary nursery areas designated in North Carolina); pelagic and benthic Sargassum; Hoyt Hills for wreckfish; the Oculina Bank HAPC; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; Council-designated artificial reef special management zones; and deep-water marine protected areas. Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, post-larval, juvenile, and adult stages).

The Council established the special management zone (SMZ) designation process in 1983 in the Snapper-Grouper FMP, and SMZs have been designated in federal waters off North Carolina, South Carolina, Georgia, and Florida since that time. The purpose of the original SMZ

designation, and the subsequent specification of SMZs, was to protect snapper-grouper populations at the relatively small, permitted artificial reef sites and "create fishing opportunities that would not otherwise exist." Thus, the SMZ designation process was centered around protecting the relatively small habitats, which are known to attract desirable snapper-grouper species.

In the Comprehensive Ecosystem-Based Amendment 1 (CE-BA1; SAFMC 2009a), the Council determined that the designated SMZs met the criteria to be EFH-HAPCs for species included in the Snapper-Grouper FMP. Since CE-BA 1, the Council has designated additional SMZs in the Snapper Grouper FMP. The SMZ and EFH-HAPC designations serve similar purposes in pursuit of identifying and protecting valuable and unique habitat for the benefit of fish populations, which are important to both fish and fishers. Therefore, the Council has determined that a designated SMZ meets the criteria for an EFH-HAPC designation, and the Council intends that all SMZs designated under the Snapper-Grouper FMP are also designated as EFH-HAPCs under the Snapper-Grouper FMP.

The potential impacts the actions in this amendment may have on EFH and EFH-HAPCs 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 (Table 3.2.1 below), 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.

**Table 3.2.1.** Species contained within the Snapper-Grouper FMU.

| Common Name | Scientific Name |
|---|---|
| Gray triggerfish | *Balistes capriscus* |
| Bar jack | *Caranx ruber* |
| Greater amberjack | *Seriola dumerili* |
| Lesser amberjack | *Seriola fasciata* |
| Almaco jack | *Seriola rivoliana* |
| Spadefish | *Chaetodipterus faber* |
| Margate | *Haemulon album* |
| Tomtate | *Haemulon aurolineatum* |
| Sailor's choice | *Haemulon parra* |
| White grunt | *Haemulon plumierii* |

| Common Name | Scientific Name |
|---|---|
| Hogfish | *Lachnolaimus maximus* |
| Queen snapper | *Etelis oculatus* |
| Mutton snapper | *Lutjanus analis* |
| Blackfin snapper | *Lutjanus buccanella* |
| Red snapper | *Lutjanus campechanus* |
| Cubera snapper | *Lutjanus cyanopterus* |
| Gray snapper | *Lutjanus griseus* |
| Lane snapper | *Lutjanus synagris* |
| Silk snapper | *Lutjanus vivanus* |
| Yellowtail snapper | *Ocyurus chrysurus* |
| Vermilion snapper | *Rhomboplites aurorubens* |
| Blueline tilefish | *Caulolatilus microps* |
| Golden tilefish | *Lopholatilus chamaeleonticeps* |
| Sand tilefish | *Malacanthus plumieri* |
| Wreckfish | *Polyprion americanus* |
| Rock hind | *Epinephelus adscensionis* |
| Graysby | *Epinephelus cruentatus* |
| Speckled hind | *Epinephelus drummondhayi* |
| Yellowedge grouper | *Epinephelus flavolimbatus* |
| Coney | *Epinephelus fulvus* |
| Red hind | *Epinephelus guttatus* |
| Goliath grouper | *Epinephelus itajara* |
| Red grouper | *Epinephelus morio* |
| Misty grouper | *Epinephelus mystacinus* |
| Warsaw grouper | *Epinephelus nigritus* |
| Snowy grouper | *Epinephelus niveatus* |
| Nassau grouper | *Epinephelus striatus* |
| Black grouper | *Mycteroperca bonaci* |
| Yellowmouth grouper | *Mycteroperca interstitialis* |
| Gag | *Mycteroperca microlepis* |
| Scamp | *Mycteroperca phenax* |
| Yellowfin grouper | *Mycteroperca venenosa* |
| Black sea bass | *Centropristis striata* |
| Jolthead porgy | *Calamus bajonado* |
| Saucereye porgy | *Calamus* |
| Whitebone porgy | *Calamus leucosteus* |
| Knobbed porgy | *Calamus nodosus* |
| Red porgy | *Pagrus* |
| Scup | *Stenotomus chrysops* |
| Cottonwick | *Haemulon melanurum* |
| Bank sea bass | *Centropristis ocyurus* |
| Rock sea bass | *Centropristis philadelphica* |
| Longspine porgy | *Stenotomus caprinus* |

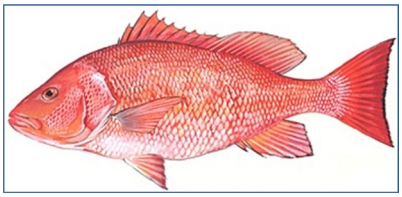
| Common Name | Scientific Name |
|---|---|
| Ocean triggerfish | *Canthidermis sufflamen* |
| Banded rudderfish | *Seriola zonata* |

### 3.2.1 Red snapper, *Lutjanus campechanus*

**Life History**

Red snapper are 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). In the South Atlantic, red snapper are most common at depths ranging from 21 to 40 m (70-130 ft) (SERFS, unpublished data). This species is generally associated with limestone outcroppings and live-bottom habitat (Powles and Barans 1980; White and Palmer 2004). Juveniles inhabit shallow waters and are common over sandy or muddy bottom habitat (Allen 1985).

**Red snapper Life History**
***An Overview***



- Extend from North Carolina to the Florida Keys, and throughout the Gulf of Mexico to the Yucatan Peninsula.
- Waters ranging from 33-623 feet.
- Red snapper do not migrate but can move long distances.
- The spawning season extends from May to October, peaking in July through September.
- Can live for at least 51 years.

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 (Szedlemayer and Lee 2004).

**Stock Status**

The SEDAR process is a cooperative Fishery Management Council initiative to improve the quality and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and U.S. Caribbean. The Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils manage SEDAR in coordination with the National Marine Fisheries Service (NMFS) and the Atlantic and Gulf States Marine Fisheries Commissions. SEDAR seeks improvements in the scientific quality of stock assessments, constituent and stakeholder participation in assessment development, transparency in the assessment process, and a rigorous and independent scientific review of completed stock assessments.

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

SEDAR workshops are public meetings organized by SEDAR. Workshop participants appointed by the lead Council are drawn from state and federal agencies, non-government organizations, Council members, Council advisors, and the fishing industry with a goal of including a broad range of disciplines and perspectives. All participants are expected to contribute to this scientific process by preparing working papers, contributing data, providing assessment analyses, evaluating and discussing information presented, and completing the workshop report.

Manooch et al. (1998) conducted the first formal assessment of red snapper in the South Atlantic. The authors concluded that the status of the stock was not ideal but seemed to be responding to management action. Potts and Brennan (2001) revisited the results of that assessment and suggested a broader range of reduction in fishing mortality (F), from 30% to 80%.

**South Atlantic Red Snapper Stock Assessments**

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 (BAM) with data through 2009 was completed (SEDAR 24 2010). BAM is a statistical catch-age model developed by the analysts at the Beaufort, North Carolina, NMFS' Southeast Fisheries Science Center (SEFSC) laboratory, and is customizable to the data available. A surplus production model called ASPIC (Prager 1994; Prager 2004) was used as a complement for comparison purposes. Based on the assessment provided from the BAM, the SEDAR Review Panel concluded that the red snapper stock was overfished and overfishing was occurring. Similar to SEDAR 15 (2008, revised 2009), more than 40 sensitivities were run, all of which resulted in the same status determinations. Consequently, a 34-year rebuilding plan for red snapper was implemented in 2010, scheduled to end in 2044.

A benchmark assessment was completed in 2016 (SEDAR 41 2017) with data through 2014. Although the SEDAR Review Panel concluded that the assessment results represented 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 Catch Per Unit Effort catchability, and the selectivities for the different fishery fleets. The SSC reviewed the assessment and provided fishing level recommendations at their May 2016 meeting based on $F_{30\%SPR}$ as a proxy for $F_{MSY}$. 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 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 (May 2016 Final SSC report).

SEDAR 41 (2017) estimated the long-term maximum sustainable yield (MSY) to be about 25% of what it was estimated to be in SEDAR 24 (2010), and projected catch levels from SEDAR 41 at the fishing mortality level predicted to rebuild the stock in the specified timeframe ($F_{Rebuild}$) were approximately 21% of the catch levels projected for 2017 based on SEDAR 24 (2010). Given this, and the various sources of uncertainty in the SEDAR 41 (2017) assessment, the Council sought the SSC's recommendations on additional projection runs and reference point criteria, reliability of Marine Recreational Information Program (MRIP) estimates for red snapper (landings and discards), and the risk associated with using different values of MSY (Appendix M, Amendment 43 to the Snapper Grouper FMP; SAMFC 2017c). In addition, the Council requested that projections under a discards-only scenario be provided for discussion at their March 2017 meeting. However, the SEFSC indicated (via letter dated February 15, 2017) the projections could not be completed due to the length of time since the completion of the

assessment, uncertainty in the catches since most catches were from discards, and the change in MRIP methodology for estimating landings and discards. Moreover, the Council received a letter from NMFS (dated March 3, 2017) stating the Council had likely taken sufficient action to address overfishing of red snapper in the South Atlantic and should focus efforts on a methodology to obtain an acceptable biological catch (ABC) for red snapper. SEDAR 41 was updated due to revisions in the headboat index and presented to the SSC in April 2017. Due to issues laid out by the SEFSC, the Council requested that the SEFSC and the SSC collaborate to explore approaches to arrive at an ABC for red snapper that could be applied to a long-term management approach.

The SEDAR 73 (2021) stock assessment 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 in recent years and substantial progress toward rebuilding. Similar to SEDAR 41 (2017), SEDAR 73 (2021) also indicated that the primary driver of overfishing was recreational dead discards. The Council's SSC reviewed results of the assessment at their April and July 2021 meetings, and recommended a new overfishing limit and ABC. The Council received notification from 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 being overfished, the 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 was already in place and SEDAR 73 (2021) showed adequate progress towards rebuilding was being made, the Council did not have to revise its current rebuilding plan but was still required to take action to end overfishing. The Council developed Regulatory Amendment 35, which proposed modest reductions in catch limits and gear restrictions to reduce discards, but would not have been sufficient to end overfishing. Ultimately, the Council approved Regulatory Amendment 35 and voted to submit it the Secretary of Commerce for review in March 2023. However, in December 2024, the South Atlantic Council rescinded Regulatory Amendment 35 and failed to develop any additional conservation and management measures to end the overfishing of red snapper thereafter.

An update of the SEDAR 73 (2021) stock assessment was completed in December 2024 using data through 2023 (SEDAR 73 Update Assessment). The assessment indicated that the red snapper stock had continued to grow, was no longer considered to be overfished ($SSB_{2024}$>MSST), but had not yet rebuilt to the targets established in the rebuilding plan and that overfishing was continuing. Numerous rebuilding projections were provided in the update assessment. SEDAR 73 Update Assessment projections for red snapper (both deterministic and probabilistic) under the high recent average recruitment scenario projected that the stock would continue to rebuild on schedule at the current level of fishing mortality ($F_{21-23}$) through 2028 (i.e., if fishing mortality is not reduced from 2021-23 averages) with a 51% chance of the stock being rebuilt in three years. Thus, maintaining F at or below $F_{21-23}$ through 2028, when the next assessment is completed, is not be expected to jeopardize the stock's capacity to rebuild and produce the maximum sustainable yield on a continuing basis.

**Fishing Seasons (2017-present)**

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.

### 3.2.2 Landings and Discards

#### Commercial landings and discards

Commercial landings of South Atlantic red snapper are monitored in pounds whole weight (lbs ww) (Table 3.2.1.1). Georgia landings were confidential so they were added to the east Florida landings. During 2015 and 2016, total removals exceeded the ABC, so the annual catch limit (ACL) was set to zero. Since 2017, with 2018 as an exception, the commercial ACL has been met in about two months, resulting in an in-season closure. During 2018 and 2023, the commercial sector was closed in-season as the ACL was predicted to be met, but was reopened later in the season in order to reach the ACL (Table 3.2.1.1). Since 2016, commercial dead discards have declined as commercial harvest of red snapper was re-opened (Figure 3.2.1.1). During 2021-2023, commercial dead discards accounted for approximately 2% of the total red snapper dead discards annually (see Table 13; S73 Update 2024).

**Table 3.2.1.1.** Total and state commercial landings (lbs ww) of South Atlantic red snapper from 2017 through 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 | NC | SC | GA and East FL | VA North | Total Landings | ACL | ACL % | In-season Closure/ Reopenings | Number of Days Open |
|---|---|---|---|---|---|---|---|---|---|
| 2017 | 9,719 | 3,947 | 74,953 | 1,729 | 90,349 | 124,815 | 72.4% | n/a | 60 |
| 2018 | 11,526 | 9,708 | 106,388 | 361 | 127,982 | 124,815 | 102.5% | 11/7/2018; reopened 12/5 to 12/15/2018 | 114 |
| 2019 | 9,986 | 7,389 | 102,677 | 359 | 120,410 | 124,815 | 96.5% | 43707 | 54 |
| 2020 | 12,198 | 6,243 | 115,865 | 585 | 134,891 | 124,815 | 108.1% | 44079 | 54 |
| 2021 | 16,040 | 8,342 | 103,082 | 375 | 127,840 | 124,815 | 102.4% | 9/14/2021; reopened 11/2 to 11/5/2021 | 68 |
| 2022 | 15,008 | 8,758 | 101,792 | 179 | 125,737 | 124,815 | 100.7% | Closed 8/31/2022 | 51 |
| 2023 | 21,110 | 6,805 | 99,345 | 0 | 127,260 | 124,815 | 102.0% | Closed 8/18/2023; reopened 10/5 to 10/9/2023 | 43 |

Source: Data provided by SEFSC August 2024, SEDAR 73 Update Assessment 2024.

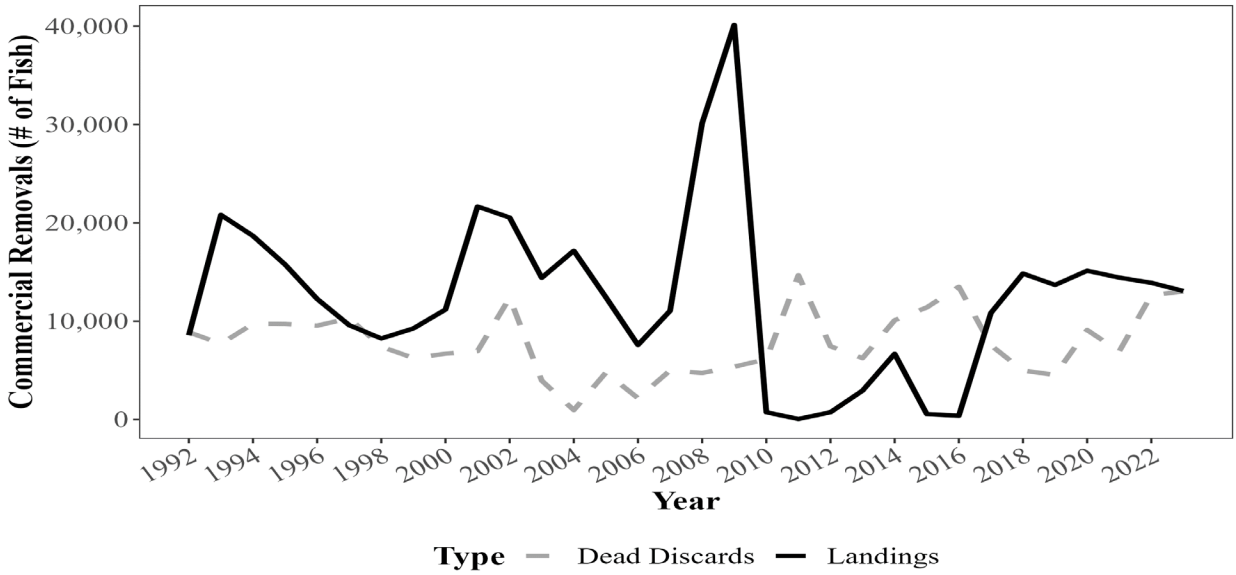



**Figure 3.2.1.1.** Red snapper commercial landings (black solid) and estimated dead discards (gray dashed) (numbers of fish) from Updated SEDAR 73 (2024) by year from 1992 through 2023.

## 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). East Florida has landed the majority of red snapper since 2017. The length of the red snapper recreational season has declined from 9 days in 2017 to 2 days in 2023

(Table 3.2.1.2), as a result of catch rates increasing and the recreational ACL being projected to be reached sooner 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. Figure 3.2.1.2 shows a steep decline in estimated recreational landings since 2010, with a large incline in estimated discards. During 2021-2023, recreational dead discards accounted for approximately 98% of the total red snapper dead discards annually (see Table 13; S73 Update 2024).

**Table 3.2.1.2.** Total and state recreational landings (numbers of fish) of South Atlantic red snapper from 2017 through 2023 and the total number of days the season was open each year.

| Year | Georgia and Florida | North Carolina | South Carolina | Total Landings | Number of Days Open |
|---|---|---|---|---|---|
| 2017 | 26,459 | 194 | 1,970 | 28,623 | 9 |
| 2018 | 64,005 | 479 | 363 | 64,847 | 6 |
| 2019 | 60,497 | 178 | 15,336 | 76,011 | 5 |
| 2020 | 51,207 | 1,640 | 23,640 | 76,487 | 4 |
| 2021 | 50,089 | 8,019 | 638 | 58,746 | 3 |
| 2022 | 30,097 | 10,456 | 110 | 40,663 | 2 |
| 2023 | 120,212 | 951 | 1,290 | 122,453 | 2 |

Source: Data provided by SEFSC August 2024, SEDAR 73 Update Assessment 2024.

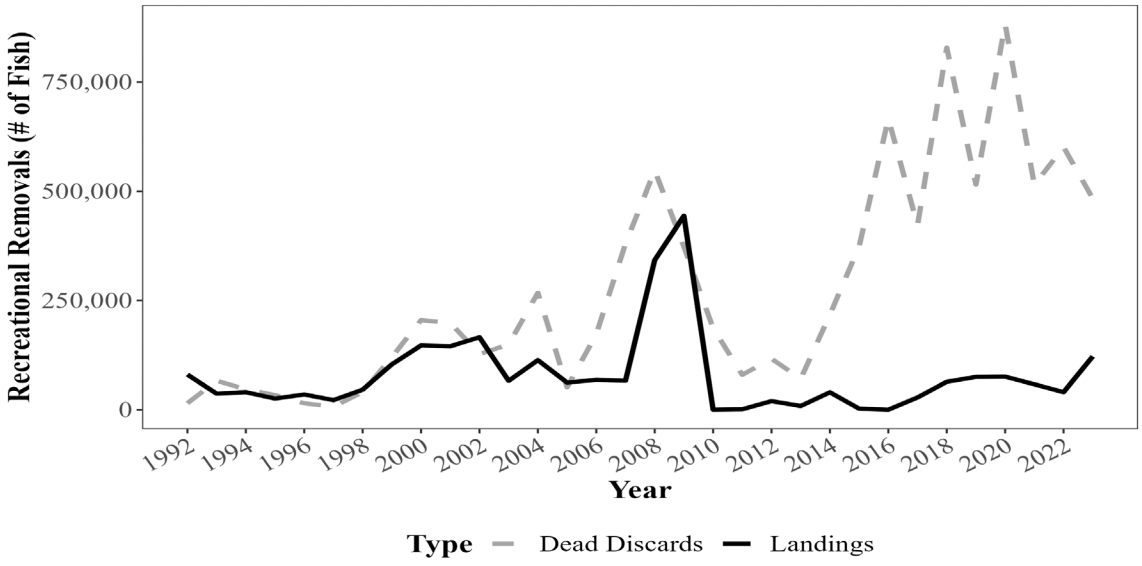



**Figure 3.2.2.2.** Red snapper recreational landings (black solid) and estimated dead discards (gray dashed) (numbers of fish) from Update SEDAR 73 (2024) by year from 1992 through 2023.

## Biomass

SEDAR 73 (2021) showed an evenly distributed age structure, with a general decline in estimated biomass until the early-1990s. During the early to mid-1990's, biomass stabilized, before increasing in the late 1990s. Since implementation of the rebuilding plan in 2010, there has been a substantial 2-3 fold increase in biomass (Figure 3.2.1.3). The terminal year estimates of numbers are higher than estimated in 1980, but with a younger age structure indicating that the stock has not fully rebuilt to the biomass target.

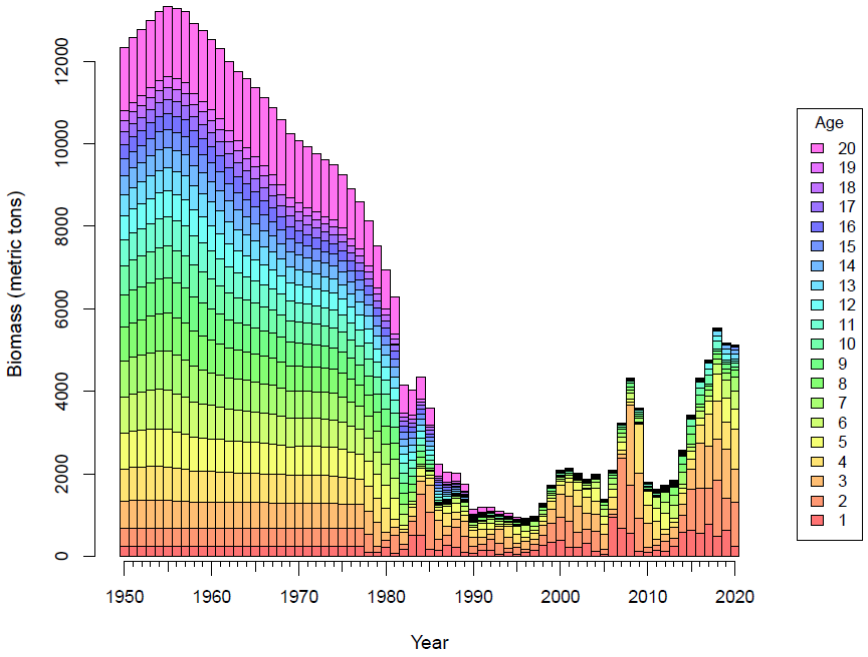



**Figure 3.2.1.3.** Estimated biomass of South Atlantic red snapper at age at start of year from SEDAR 73 (2021).

### 3.2.3 Bycatch

Amendment 59 is intended to end and prevent overfishing of red snapper. Overfishing of red snapper is largely a function of red snapper being incidentally discarded dead when fishermen target species that co-occur with red snapper. Amendment 59 is expected to reduce dead discards of red snapper as well as bycatch of snapper-grouper species. The commercial and recreation sectors for the snapper-grouper fishery also target a wide range of species other than snapper-grouper species during each trip, including dolphin wahoo and coastal migratory pelagic species. 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, gray triggerfish, and red porgy (Appendix F, Table F.2). For the recreational sector, black sea bass, vermilion snapper, and gray triggerfish are most commonly caught with red snapper (Appendix F, Table F.11). The implications of bycatch on the red snapper stock and the snapper-grouper fishery are discussed in Chapter 4 and Appendix F (Bycatch Practicability Analysis [BPA]).

### 3.2.4 Other Species Affected

This amendment indirectly affects other species in the Snapper Grouper FMU that are caught while fishing for red snapper. Action 4 proposes discard reduction areas for red snapper and all co-occurring snapper-grouper species. For summary information on other snapper grouper species that may be affected by the actions in this plan amendment, refer to Appendix F (BPA) and Section 3.2.5 in Vision Blueprint Commercial Regulatory Amendment 27 to the Snapper Grouper FMP (SAFMC 2019c).

### 3.2.5 Protected Species

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

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

NMFS completed a formal consultation and resulting biological opinion (Bi-Op) on the conservation regulations under the ESA and the authorization of the South Atlantic snapper grouper fishery in federal waters under the Magnuson-Stevens Act, including the fishery managed by the Snapper Grouper FMP, on threatened and endangered species and designated critical habitat dated December 1, 2016. NMFS concluded that the activities addressed in the consultation are not likely to jeopardize the continued existence of any threatened or endangered species, including the North Atlantic right whale, loggerhead sea turtle Northwest Atlantic DPS, leatherback sea turtle, Kemp's ridley sea turtle, green sea turtle North Atlantic DPS, green sea turtle South Atlantic DPS, hawksbill sea turtle, smalltooth sawfish U.S. DPS, or Nassau grouper.

Since completing the December 2016 Bi-Op, NMFS published several final rules that listed additional species and designated critical habitat. On January 22, 2018, the giant manta ray

(*Manta birostris*) was listed as threatened under the ESA, effective February 21, 2018. On January 30, 2018, the oceanic whitetip shark (*Carcharinus longimanus*) was listed as threatened under the ESA, effective March 1, 2018. On July 19, 2023, NMFS published a proposed rule to designate critical habitat for the North Atlantic DPS of the green sea turtle. After reviewing the proposed rule, I have concluded the subject fishery would not affect the reproductive, migratory, benthic foraging/resting, or surface-pelagic foraging/resting features of the proposed critical habitat for the North Atlantic DPS of the green sea turtle. Giant manta rays and oceanic whitetip sharks are found in the South Atlantic exclusive economic zone (EEZ) and may be affected by the subject fishery via incidental capture in snapper grouper fishing gear. NMFS has reinitiated formal consultation to address these listings and concluded the authorization of the South Atlantic snapper grouper fishery in federal waters during the re-initiation period will not violate ESA Sections 7(a)(2) or 7(d). For summary information on the protected species that may be adversely affected by the 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 2019d). On August 14, 2023, and in 2024, NMFS updated the 7(a)(2) analysis to address the impacts to listed species during the longer than initially expected reinitiation time period and reaffirmed the lack of irreversible and irretrievable commitments of resources consistent with 7(d).

## 3.3 Economic Environment

### 3.3.1 Commercial Sector

**Permits**

Any fishing vessel that harvests and sells any of the snapper group species, including red snapper, from the South Atlantic exclusive economic zone (EEZ) must have a valid South Atlantic snapper grouper commercial permit. Commercial South Atlantic snapper grouper permits are a limited access permit. After such a permit expires, it can be renewed or transferred (with restrictions) up to one year after the date of expiration. A vessel with a Snapper Grouper Unlimited (SG1) permit can harvest up to the full commercial trip limits for all snapper grouper species excluding wreckfish, per trip. The Snapper Grouper 225-lb Trip-limited (SG2) permit limits the harvest of snapper grouper species to 225 pounds combined per trip and can only be transferred onto a different vessel owned by the same entity. In 2009, the total number of SG1& SG2 permits was 783 as shown in Table 3.3.1.1. The total number of snapper grouper permits has decreased steadily over time, in large part due to the requirement, in most circumstances, to exchange two such permits for one new permit when requesting a permit transfer (Table 3.2.2.1).[6] Overall the cumulative decline in valid snapper grouper permits from 2009-2020 has been 18.3% (Table 3.3.1.1).

**Table 3.3.1.1.** Number of valid South Atlantic snapper-grouper permits, 2009-2023.

[6] Exceptions to this requirement are specified in CFR Section 622.171, paragraphs (b)(1)(i) and (ii).

| Year | SG1 Permits | SG2 Limited Permits | Total Permits |
|---|---|---|---|
| 2009 | 639 | 144 | 783 |
| 2010 | 624 | 139 | 763 |
| 2011 | 615 | 138 | 753 |
| 2012 | 604 | 132 | 736 |
| 2013 | 592 | 129 | 721 |
| 2014 | 584 | 125 | 709 |
| 2015 | 571 | 121 | 692 |
| 2016 | 565 | 116 | 681 |
| 2017 | 554 | 114 | 668 |
| 2018 | 549 | 110 | 659 |
| 2019 | 543 | 108 | 651 |
| 2020 | 535 | 104 | 639 |
| 2021 | 529 | 98 | 627 |
| 2022 | 520 | 95 | 615 |
| 2023 | 513 | 89 | 602 |

Source: NMFS SERO Sustainable Fisheries (SF) Access permits database. Accessed 10/17/22 and 1/8/25.

**Vessels**

Not all holders of South Atlantic commercial permits for snapper grouper are active each year. The information in Tables 3.3.1.2 and 3.3.1.3 describe the landings and revenue for vessels which, during the 2019-2023 timeframe, possessed a valid or renewable commercial South Atlantic snapper grouper permit and were actively fishing. Tables 3.3.1.2 and 3.3.1.3 show the landings and revenue from all snapper grouper, other jointly landed species, and non-jointly landed species. Additionally, landings of species harvested in the Gulf by these vessels are shown to provide a full accounting of the commercial fishing activity of commercial South Atlantic snapper grouper permitted vessels.

The number of permitted commercial South Atlantic snapper grouper vessels actively fishing each year has declined overall from 2019-2023, with a 5% decline in active vessels on average each year. Total landings of snapper grouper species also declined during this period, by 5% on average each year. Landings of jointly caught species on snapper grouper trips (i.e., trips that harvested any snapper grouper species) also declined during this period, by 15% on average each year. Total landings of all species by permitted commercial South Atlantic snapper grouper vessels declined by 11% on average each year from 2019-2023 (Table 3.3.1.2). On average from 2019-2023, snapper grouper species accounted for 61% of total landings by permitted commercial South Atlantic snapper grouper vessels.

**Table 3.3.1.1.** Number of vessels and landings (lb gutted weight [gw]), by year for permitted commercial South Atlantic snapper grouper vessels. SATL = South Atlantic.

| Year | Number of Vessels | SATL Snapper Grouper Species Landings | Other jointly caught Species | Other SATL Landings | Other Gulf Landings | Total Landings |
|---|---|---|---|---|---|---|
| **2019** | 534 | 4,465,694 | 620,721 | 2,367,924 | 869,931 | 8,324,270 |
| **2020** | 517 | 3,827,852 | 417,966 | 1,592,086 | 564,001 | 6,401,905 |
| **2021** | 466 | 3,582,053 | 355,153 | 1,392,807 | 515,310 | 5,845,323 |
| **2022** | 451 | 3,799,472 | 286,529 | 1,571,032 | 363,871 | 6,020,904 |
| **2023*** | 442 | 3,547,656 | 298,037 | 988,238 | 189,550 | 5,023,481 |

**Source:** Southeast Fisheries Science Center (SEFSC) Social Science Research Group (SSRG) Socioeconomic Panel (Oct 2024 version).
* Data in this year are preliminary

Overall, dockside revenue of snapper grouper species landed by permitted commercial South Atlantic snapper grouper vessels was variable during this period (Table 3.3.1.3). Revenue from snapper grouper landings decreased on average each year by 4% during this time period. Revenue from jointly caught species on South Atlantic snapper grouper trips decreased by 12% on average each year. Revenue from other South Atlantic species not caught on snapper grouper trips declined by 13% on average each year. Revenue from Gulf trips decreased by 29% on average each year. Total gross revenue by permitted commercial South Atlantic snapper grouper vessels declined by 8% on average each year. The maximum total revenue earned by a single vessel from all landings during this period was approximately $457,418 (2023$). On average from 2019-2023, snapper grouper species accounted for 74% of the total revenue by permitted commercial South Atlantic snapper grouper vessels and the average price per pounds was $4.55 (2023$).

**Table 3.3.1.2.** Number of vessels and revenues (2023$) by year for permitted commercial South Atlantic snapper grouper vessels. SATL=South Atlantic.

| Year | Number of Vessels | Snapper Grouper Revenue | Other jointly caught species w/ Snapper Grouper Revenue | Other SATL Revenue | Gulf Revenue | Total Gross Revenue |
|---|---|---|---|---|---|---|
| **2019** | 534 | $19,707,208 | $1,406,409 | $4,636,620 | $2,993,136 | $28,743,373 |
| **2020** | 517 | $16,958,501 | $995,614 | $3,465,982 | $1,875,871 | $23,295,968 |
| **2021** | 466 | $16,004,341 | $905,812 | $2,955,765 | $1,885,289 | $21,751,208 |
| **2022** | 451 | $18,224,513 | $807,573 | $3,560,213 | $1,241,931 | $23,834,230 |
| **2023*** | 442 | $16,534,677 | $823,941 | $2,379,945 | $687,467 | $20,426,030 |

**Source:** SEFSC-SSRG Socioeconomic Panel (Oct 2024 version).
* Data in this year are preliminary

The information in Tables 3.3.1.4 and 3.3.1.5 describe the landings and revenue for vessels that harvested South Atlantic red snapper each year from 2019 through 2023, other jointly landed species, and non-jointly landed species. Additionally, landings and revenue from species harvested in the Gulf by these vessels are shown to provide a full accounting of the commercial fishing activity of commercial South Atlantic red snapper vessels. Vessel participation declined on average each year by 1%. Total landings of red snapper were relatively stable, and only declined on average each year by less than 1%. Landings of other species caught on red snapper trips declined by 7% on average each year. Landings of other species caught on non-red snapper trips declined by 8% on average each year. Gulf trips landings declined on average by 16% each year (Table 3.3.1.4). Red snapper accounted for approximately 3.5% of total landings by commercial vessels harvesting South Atlantic red snapper.

**Table 3.3.1.3.** Number of vessels and landings (lb gw), by year for permitted commercial South Atlantic red snapper vessels. SATL= South Atlantic.

| Year | Number of Vessels | SATL Red Snapper Species Landings (gw) | Other jointly caught Species | Other SATL Landings | Other Gulf Landings | Total Landings |
|---|---|---|---|---|---|---|
| **2019** | 195 | 105,378 | 379,106 | 3,031,984 | 184,234 | 3,700,702 |
| **2020** | 209 | 113,388 | 411,761 | 2,888,800 | 171,553 | 3,585,502 |
| **2021** | 197 | 107,339 | 369,541 | 2,282,376 | 154,277 | 2,913,533 |
| **2022** | 175 | 106,158 | 340,777 | 2,042,707 | 113,800 | 2,603,442 |
| **2023*** | 182 | 104,832 | 274,176 | 2,113,719 | 89,558 | 2,582,285 |

**Source:** SEFSC-SSRG Socioeconomic Panel (Oct 2024 version).
*Data in this year are preliminary

Dockside revenue of red snapper increased by 4% on average each year. Revenue from other species caught on South Atlantic red snapper trips decreased by 9% on average each year. Revenue from other South Atlantic species not caught on red snapper trips and revenue from Gulf trips decreased on average each year, by 6% and 16%, respectively. The maximum total revenue for a vessel that harvested red snapper during this time period was $434,804 (2023$). On average from 2019-2023, 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. However, on red snapper trips, in particular, red snapper accounted for approximately 33% of trip revenue on average, which may be indicative of targeting behavior. The average annual price per lb gw for red snapper during this period was $6.95 (2023 dollars).

**Table 3.3.1.4.** Number of vessels and revenues (2023$) by year* for South Atlantic red snapper vessels.

| Year | Number of Vessels | Red Snapper Revenue | Other jointly caught species w/ Red Snapper Revenue | Other SATL Revenue | Gulf Revenue | Total Gross Revenue |
|---|---|---|---|---|---|---|
| **2019** | 195 | $738,639 | $1,676,183 | $11,106,624 | $643,210 | $16,652,132 |
| **2020** | 209 | $755,960 | $1,739,722 | $10,765,788 | $718,919 | $16,221,369 |
| **2021** | 197 | $750,249 | $1,500,318 | $8,341,417 | $568,527 | $12,381,744 |
| **2022** | 175 | $761,582 | $1,483,785 | $8,394,714 | $445,278 | $11,489,409 |
| **2023** | 182 | $724,837 | $1,135,222 | $8,506,522 | $303,493 | $10,670,074 |
| **AVG** | **192** | **746,253** | **1,507,046** | **9,423,013** | **535,885** | **13,482,946** |

**Source:** SEFSC-SSRG Socioeconomic Panel (Aug 2023 version).
*Data in this year are preliminary

**Economic Value**

Changes in commercial red snapper landings may result in economic effects because of potential changes in ex-vessel prices due to less (or more) domestic red snapper being available in markets. In turn, if the ex-vessel price is expected to change, gross revenue and thus consumer surplus (CS) would also be expected to change. The potential effects on ex-vessel price, gross revenue, and CS can be estimated utilizing the work by Asche (2020). According to the results of the inverse almost ideal demand system, Asche (2020) estimated a Marshallian own-price flexibility for "other snappers," inclusive of red snapper, of -0.340. The own-price flexibility is the percentage change in a product's price relative to the percentage change of a product's quantity sold, and thus estimates the responsiveness of a product's price to the quantity being sold. The own-price flexibility estimate in Asche (2020) is not compensated for income. An income-compensated estimate would likely be lower, which would in turn yield smaller changes

in the ex-vessel price and thus smaller changes in gross revenue and producer surplus (PS)[7]. Thus, any estimates based on their analysis should be considered maximum expected changes in ex-vessel price, gross revenue, and CS in the commercial sector.

Estimates of economic returns are not directly available for commercial vessels that harvested red snapper in the South Atlantic. There are, however, estimates of economic returns for commercial vessels that participated in the snapper grouper fishery as a whole. Liese (2023)[8] generated annual vessel-level estimates of costs (as a percentage of revenue) and net revenue from operations for vessels that harvested snappers and groupers in the South Atlantic. Estimates of PS can be calculated from the cost information contained in Liese (2023) in conjunction with estimates of annual revenue from the SEFSC-SSRG Socioeconomic Panel. PS is total annual revenue minus the costs for fuel, other supplies, hired crew, and the opportunity cost of an owner's time as captain. Net revenue from operations, which most closely represents economic profits to the owner(s), 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. According to Liese (2023), PS for commercial vessels that harvested South Atlantic snapper grouper was approximately 37.7% of their annual gross revenue, on average, from 2014 through 2018. Net revenue from operations was 8.2% of their annual gross revenue, on average, during this period. Applying these percentages to the results provided in Table 3.3.1.5 would result in an estimated per vessel average annual PS of $26,401 (2023 dollars) and an average annual net revenue from operations of $5,742 per year. Liese (2023) also provides annual trip-level estimates of costs (as a percentage of trip revenue) and trip net revenue for vessels that harvested snappers and groupers in the South Atlantic. According to Liese (2023), labor, including both hired and owner's time, consumed 48.4% of trip revenue and fuel and supplies consumed 26%, leaving a trip net revenue margin of 25.6%, on average, from 2014 through 2018.

**Dealers**

The information in Table 3.3.1.6 illustrates the purchasing activities of dealers that bought South Atlantic red snapper landings from vessels from 2019 through 2023. Additionally, the purchasing activities for species harvested in the Gulf by these dealers is shown to provide a full accounting of the purchasing of dealers that bought South Atlantic red snapper landings. The total number of dealers purchasing red snapper declined each year from 2019-2023 and averaged 83 dealers per year. In 2023, the total number of dealers purchasing red snapper was approximately 10% fewer relative to 2019. Total annual red snapper purchases by dealers increased gradually during this period, with an increase of 9% in 2023 relative to 2019. Purchases of South Atlantic red snapper per dealer were approximately $11,000 (2023$) during this time frame. Purchases of South Atlantic red snapper per dealer increased by 34% in 2023, relative to 2019.

[7] Producer surplus is the difference between total annual revenue and variable costs.

[8] This report is available via the NOAA repository: https://repository.library.noaa.gov/view/noaa/56480

The total value of other species purchased decreased by 29% in 2023, relative to 2019. Other South Atlantic species average purchases per dealer value declined by about 12% in 2023, relative to 2019. Total purchases for all species by dealers purchasing South Atlantic red snapper averaged approximately $73.7 million (2023$) from 2019-2023. Red snapper made up less than 1% of total purchases by red snapper 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 as a result 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 (2016) 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 South Atlantic red snapper landings by year, 2019-2023. All dollar estimates are in 2023$.

| Year | Number Dealers | Statistic | Red Snapper Purchases | Other SA Species Purchases | Other Gulf Species Purchases | Total Purchases |
|---|---|---|---|---|---|---|
| 2019 | 78 | Maximum | $175,388 | $12,492,450 | $4,421,428 | $12,540,127 |
| | | Mean | $10,159 | $1,072,378 | $174,817 | $1,245,319 |
| | | Total | $782,260 | $81,500,706 | $13,460,879 | $95,889,525 |
| 2020 | 77 | Maximum | $180,219 | $9,940,294 | $4,101,451 | $9,946,963 |
| | | Mean | $10,947 | $1,066,752 | $164,371 | $1,229,494 |
| | | Total | $810,089 | $77,872,884 | $12,163,463 | $90,982,535 |
| 2021 | 74 | Maximum | $139,979 | $10,266,409 | $5,256,760 | $10,582,663 |
| | | Mean | $11,258 | $1,112,445 | $154,143 | $1,264,945 |
| | | Total | $810,556 | $78,983,621 | $11,098,315 | $91,076,047 |
| 2022 | 72 | Maximum | $134,207 | $8,930,255 | $6,667,541 | $15,701,970 |
| | | Mean | $11,372 | $1,009,868 | $206,525 | $1,215,518 |
| | | Total | $818,766 | $71,700,621 | $14,869,798 | $87,517,297 |
| 2023 | 70 | Maximum | $145,819 | $8,653,588 | $6,216,963 | $14,971,347 |
| | | Mean | $13,591 | $939,447 | $270,482 | $1,210,118 |
| | | Total | $856,212 | $58,245,742 | $17,040,377 | $76,237,442 |

**Source:** SEFSC Fishing Communities Web Query Tool, Version 1. Accessed 09/23/2024.

## Imports

Imports of foreign seafood products compete in the domestic seafood market and have dominated many segments of the domestic seafood market. Imports aid in determining the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports can have downstream effects on the local fish market. At the harvest level, imports can affect 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 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. Imports of fresh and frozen snapper products, which directly compete with domestic harvest of snapper species are described in this section. As shown in Table 3.3.1.7, imports of fresh snapper products were 32.8 million lb product weight (pw) in 2019. They peaked at 36.0 million lb pw in 2021. Total revenue from snapper imports increased to a five-year high of $164.9 million in 2021 (2023$). The average price per pound for fresh snapper products was $4.39 from 2019-2023 and was increasing, but declined by 9% in 2023, relative to 2021 and 2022. 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, 2019-2023. All monetary estimates are in 2023$.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Pounds of fresh Snapper imports (product weight, million pounds)** | 32.8 | 32.4 | 36.0 | 32.2 | 32.1 |
| **Value of fresh Snapper imports (millions $, 2023$)** | 128.3 | 126.2 | 164.9 | 147.4 | 139.2 |
| **Average price per lb (2023$)** | $4.06 | $4.04 | $4.75 | $4.75 | $4.34 |
| **Share of Imports by Country** | | | | | |
| **Mexico** | 34.9 | 40.4 | 32.8 | 31.2 | 32.3 |
| **Nicaragua** | 13.9 | 15.1 | 13.3 | 14.9 | 14.4 |
| **Panama** | 14.6 | 11.0 | 14.0 | 10.6 | 10.3 |
| **All others** | 36.6 | 33.5 | 39.9 | 43.4 | 42.8 |

**Source:** NOAA Foreign Trade Query Tool, accessed 10/20/24.

As shown in Table 3.3.1.8, total revenue from imports of frozen snapper increased from $40.8 million (2023$) in 2019 to a five-year high of $73.9 million in 2021 (2023$) followed by a 44% decrease in 2023. The average price per pound for frozen snapper products was $3.84, down

nearly $1.00 per lb from 2021-2022. Frozen snapper product imports primarily originated in Brazil, Suriname, entering through the port of Miami.

**Table 3.3.1.8.** Annual pounds and value of frozen snapper imports and share of imports by country, 2019-2023.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Pounds of frozen Snapper imports (product weight, million pounds)** | 11.4 | 15.9 | 18.2 | 16.9 | 11.7 |
| **Value of frozen Snapper imports (millions $, 2023$)** | 40.8 | 53.8 | 73.9 | 69.2 | 41.5 |
| **Average price per lb (2023$)** | $3.71 | $3.51 | $4.20 | $4.23 | $3.55 |
| **Share of Imports by Country** | | | | | |
| **Brazil** | 54.6 | 55.4 | 58.6 | 64.1 | 60.6 |
| **Suriname** | 13.5 | 10.3 | 10.5 | 5.5 | 12.3 |
| **Indonesia** | 6.8 | 5.4 | 3.9 | 8.0 | 7.0 |
| **All others** | 25.0 | 28.9 | 27.0 | 22.4 | 20.1 |

**Source:** NOAA Foreign Trade Query Tool, accessed 10/20/24.

**Groupers**

According to NMFS' foreign trade data,[9] grouper are not exported. 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 2023. Total value of fresh grouper imports has been increasing in recent years, and averaged $60.0 million annually. The average price per pound for fresh grouper products was $5.27 from 2019-2023 and these products primarily originated from Mexico, Panama and Brazil.

**Table 3.3.1.9.** Annual pounds and value of fresh grouper imports and share of imports by country, 2019-2023**.**

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

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Pounds of fresh Grouper imports (product weight, million pounds)** | 11.3 | 10.4 | 12.2 | 11.7 | 12.6 |
| **Value of fresh Grouper imports (millions $, 2023$)** | 59.0 | 45.2 | 63.8 | 65.4 | 66.6 |
| **Average price per lb (2023$)** | $5.40 | $4.49 | $5.40 | $5.79 | $5.29 |
| **Share of Imports by Country** | | | | | |
| **Mexico** | 57.9 | 67.6 | 54.4 | 44.0 | 45.0 |
| **Brazil** | 16.9 | 12.3 | 18.1 | 23.9 | 19.8 |
| **Panama** | 8.1 | 8.0 | 10.9 | 13.4 | 12.7 |
| **All others** | 17.0 | 12.2 | 16.6 | 18.7 | 22.4 |

**Source:** NOAA Foreign Trade Query Tool, accessed 10/20/24.

As shown in Table 3.3.1.10, imports of frozen grouper products peaked at 3.5 million lb pw in 2019 declining to a low of 0.8 million lb. pw in 2020. Total revenue from frozen grouper decreased from 2019 to 2020, but increased to $2.51 million in 2021. The average price per pound for frozen grouper products was $2.04 from 2019-2023. 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, 2019-2023.

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Pounds of frozen Grouper imports (product weight, million pounds)** | 3.5 | 0.8 | 2.2 | 1.3 | 1.2 |
| **Value of frozen Grouper imports (millions $, 2023$)** | 4.7 | 1.5 | 5.3 | 2.9 | 2.6 |
| **Average price per lb (2023$)** | $1.40 | $1.91 | $2.51 | $2.22 | $2.17 |
| **Share of Imports by Country** | | | | | |
| **Brazil** | 79.2 | 33.7 | 23.5 | 26.2 | 14.0 |
| **Suriname** | 11.2 | 25.9 | 30.6 | 16.2 | 0.0 |
| **Indonesia** | 3.0 | 1.1 | 22.2 | 5.9 | 0.0 |
| **All others** | 6.5 | 39.3 | 23.7 | 51.7 | 86.0 |

**Source:** NOAA Foreign Trade Query Tool, accessed 10/20/24.

### 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 that only shows how economic impacts may be distributed through regional markets. It should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

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 South Atlantic snapper grouper species and South Atlantic red snapper specifically were derived using the model developed for and applied in NMFS (2024)[10] and are provided in Tables 3.1.1.11 and 3.3.1.12. Specifically, these impact estimates reflect the expected impacts from average annual gross revenues generated by landings of all South Atlantic snapper grouper species and South Atlantic red snapper from 2019 through 2023. This business activity is characterized as jobs (full- and part-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 2019 and 2023, landings of all South Atlantic snapper grouper species resulted in approximately $17.4 million dollars (2023$) in gross revenue on average. In turn, this revenue generated employment, income, value-added, and output impacts of 415 jobs, $1.40 billion, $1.9 billion, and $3.81 billion per year, respectively, on average (Table 3.3.1.11).

[10] A detailed description of the input/output model is provided in NMFS (2011).

**Table 3.3.1.11.** Average annual economic impacts from the commercial harvest of snappers and groupers in the South Atlantic. All monetary estimates are in thousands of 2023$, and employment is measured in full-time equivalent jobs.

| Harvesters | Direct | Indirect | Induced | Total |
|---|---|---|---|---|
| Employment impacts | 72 | 11 | 15 | 98 |
| Income impacts | $2,076 | $385 | $932 | $3,393 |
| Total value-added impacts | $2,213 | $1,387 | $1,595 | $5,195 |
| Output Impacts | $3,845 | $3,128 | $3,095 | $10,068 |
| Primary dealers/processors | Direct | Indirect | Induced | Total |
| Employment impacts | 15 | 6 | 10 | 32 |
| Income impacts | $677 | $624 | $590 | $1,892 |
| Total value-added impacts | $722 | $796 | $1,111 | $2,630 |
| Output impacts | $2,180 | $1,642 | $2,173 | $5,994 |
| Secondary wholesalers/ distributors | Direct | Indirect | Induced | Total |
| Employment impacts | 7 | 2 | 7 | 15 |
| Income impacts | $403 | $120 | $424 | $948 |
| Total value-added impacts | $430 | $201 | $725 | $1,356 |
| Output impacts | $1,081 | $394 | $1,410 | $2,884 |
| Grocers | Direct | Indirect | Induced | Total |
| Employment impacts | 30 | 3 | 7 | 40 |
| Income impacts | $830 | $276 | $417 | $1,522 |
| Total value-added impacts | $885 | $444 | $705 | $2,034 |
| Output impacts | $1,418 | $722 | $1,385 | $3,525 |
| Restaurants | Direct | Indirect | Induced | Total |
| Employment impacts | 187 | 12 | 30 | 230 |
| Income impacts | $3,329 | $1,010 | $1,907 | $6,246 |
| Total value-added impacts | $3,549 | $1,805 | $3,213 | $8,567 |
| Output impacts | $6,489 | $2,824 | $6,341 | $15,654 |
| Harvesters and seafood industry | Direct | Indirect | Induced | Total |
| Employment impacts | 311 | 35 | 69 | 415 |
| Income impacts | $7,316 | $2,415 | $4,270 | $14,001 |
| Total value-added impacts | $7,798 | $4,634 | $7,349 | $19,782 |
| Output impacts | $15,013 | $8,710 | $14,403 | $38,126 |

Between 2019 and 2023, landings of South Atlantic red snapper resulted in approximately $746,253 (2023$) in annual gross revenue on average. In turn, this revenue generated employment, income, value-added, and output impacts of 61 jobs, $2.0 million, $2.9 million, and $5.6 million per year, respectively, on average, as seen in Table 3.3.1.12.

**Table 3.3.1.12.** Average annual economic impacts from the commercial harvest or red snapper in the South Atlantic. All monetary estimates are in thousands of 2023$, and employment is measured in full-time equivalent jobs.

| Harvesters | Direct | Indirect | Induced | Total |
|---|---|---|---|---|
| Employment impacts | 11 | 2 | 2 | 15 |
| Income impacts | $307 | $57 | $138 | $502 |
| Total value-added impacts | $328 | $205 | $236 | $769 |
| Output Impacts | $569 | $463 | $458 | $1,491 |
| Primary dealers/processors | Direct | Indirect | Induced | Total |
| Employment impacts | 2 | 1 | 2 | 5 |
| Income impacts | $100 | $92 | $87 | $280 |
| Total value-added impacts | $107 | $118 | $165 | $389 |
| Output impacts | $323 | $243 | $322 | $888 |
| Secondary wholesalers/ distributors | Direct | Indirect | Induced | Total |
| Employment impacts | 1 | 0 | 1 | 2 |
| Income impacts | $60 | $18 | $63 | $140 |
| Total value-added impacts | $64 | $30 | $107 | $201 |
| Output impacts | $160 | $58 | $209 | $427 |
| Grocers | Direct | Indirect | Induced | Total |
| Employment impacts | 4 | 1 | 1 | 6 |
| Income impacts | $123 | $41 | $62 | $225 |
| Total value-added impacts | $131 | $66 | $104 | $301 |
| Output impacts | $210 | $107 | $205 | $522 |
| Restaurants | Direct | Indirect | Induced | Total |
| Employment impacts | 28 | 2 | 5 | 34 |
| Income impacts | $493 | $150 | $282 | $925 |
| Total value-added impacts | $526 | $267 | $476 | $1,269 |
| Output impacts | $961 | $418 | $939 | $2,318 |
| Harvesters and seafood industry | Direct | Indirect | Induced | Total |
| Employment impacts | 46 | 5 | 10 | 61 |
| Income impacts | $1,083 | $358 | $632 | $2,073 |
| Total value-added impacts | $1,155 | $686 | $1,088 | $2,929 |
| Output impacts | $2,223 | $1,290 | $2,133 | $5,645 |

### 3.3.2 Recreational Sector

The recreational sector is composed 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.

**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.
Directed effort - The number of individual angler trips that either targeted or caught a particular species (including fish released).
Total recreational trips - The total estimated number of recreational trips in the South Atlantic, regardless of target intent or catch success.

Estimates of red snapper target or catch effort for additional years, and other measures of directed effort, are available online.[11] It should also be noted that FWC estimates catches and angler trips annually during the recreational red snapper open-seasons through a specialized red snapper survey, but angler trips are not estimated by the survey during the closed season.

Table 3.3.2.1 describes the recreational directed effort trips for red snapper in the South Atlantic from 2019-2023. There are no recorded shore mode trips for red snapper in the South Atlantic. Private vessels represent more than 95% of directed effort in the recreational sector. The majority of directed effort occurs by private vessels in Florida (88%), followed by South Carolina's directed effort (5%). Overall, from 2019-2023 total directed effort for South Atlantic red snapper was variable from year to year, but on average increased by 11% each year during this time.

**Table 3.3.2.1.** Red snapper recreational directed effort trips, by mode* and state 2019-2023.

[11] https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries

| | FL | GA | NC | SC | Total |
|---|---|---|---|---|---|
| **Private/Rental Mode** | | | | | |
| 2019 | 605,030 | 30,876 | 5,958 | 44,257 | 686,121 |
| 2020 | 1,016,298 | 31,701 | 6,999 | 69,081 | 1,124,079 |
| 2021 | 481,265 | 23,680 | 15,598 | 32,175 | 552,719 |
| 2022 | 442,319 | 35,774 | 19,669 | 32,391 | 530,153 |
| 2023 | 661,201 | 47,482 | 16,808 | 18,891 | 744,381 |
| **Average** | **641,223** | **33,903** | **13,006** | **39,359** | **727,491** |
| **Charter Mode** | | | | | |
| 2019 | 42,958 | 562 | 212 | 2,639 | 46,372 |
| 2020 | 38,600 | 314 | 1,117 | 1,820 | 41,851 |
| 2021 | 36,164 | 374 | 1,856 | 2,622 | 41,017 |
| 2022 | 25,523 | 261 | 1,033 | 4,258 | 31,076 |
| 2023 | 28,555 | 419 | 2,276 | 3,369 | 34,619 |
| **Average** | **34,360** | **386** | **1,299** | **2,942** | **38,987** |
| **All Modes** | | | | | |
| 2019 | 647,988 | 31,438 | 6,171 | 46,896 | 732,493 |
| 2020 | 1,054,898 | 32,015 | 8,116 | 70,901 | 1,165,930 |
| 2021 | 517,429 | 24,055 | 17,454 | 34,798 | 593,736 |
| 2022 | 467,842 | 36,035 | 20,702 | 36,649 | 561,229 |
| 2023 | 689,756 | 47,900 | 19,083 | 22,261 | 779,000 |
| **Average** | **675,583** | **34,289** | **14,305** | **42,301** | **766,478** |

**Source:** MRIP Survey Data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreationalfishing-data-downloads.
*No reported directed effort trips for Shore Mode

Tables 3.3.2.2 describes the recreational directed effort trips for all snapper grouper species in the South Atlantic from 2019-2023. Shore modes accounts for the majority of snapper grouper directed effort trips by the recreational sector (55%). Private vessels account for the second most directed effort trips during this period (43%). The majority of directed effort occurs by in Florida (77%), followed by North Carolina directed effort (11%) and then South Carolina (8%). Overall, from 2019-2023 total directed effort for South Atlantic snapper grouper was variable from year to year, but on average increased by 5% each year during this time.

**Table 3.3.2.2.** Snapper grouper recreational directed effort trips, by mode and state 2019-2023**.**

| | FL | GA | NC | SC | Total |
|---|---|---|---|---|---|
| | **Shore Mode** | | | | |
| 2019 | 2,588,642 | 81,649 | 269,763 | 326,542 | 3,266,597 |
| 2020 | 3,777,702 | 70,050 | 203,881 | 188,663 | 4,240,295 |
| 2021 | 2,668,937 | 235,765 | 355,111 | 245,356 | 3,505,169 |
| 2022 | 2,298,377 | 161,040 | 619,328 | 336,218 | 3,414,963 |
| 2023 | 3,143,888 | 177,533 | 378,376 | 461,834 | 4,161,632 |
| **Average** | **2,895,509** | **145,207** | **365,292** | **311,723** | **3,717,731** |
| | **Charter Mode** | | | | |
| 2019 | 113,962 | 1,396 | 22,327 | 26,209 | 163,894 |
| 2020 | 113,265 | 1,086 | 41,154 | 18,559 | 174,064 |
| 2021 | 134,613 | 3,643 | 23,202 | 25,940 | 187,397 |
| 2022 | 103,136 | 2,857 | 19,157 | 20,111 | 145,261 |
| 2023 | 124,963 | 3,250 | 57,383 | 29,095 | 214,691 |
| **Average** | **117,988** | **2,446** | **32,645** | **23,983** | **177,061** |
| | **Private/Rental Mode** | | | | |
| 2019 | 3,046,170 | 172,819 | 445,283 | 348,747 | 4,013,020 |
| 2020 | 3,500,138 | 168,365 | 525,440 | 331,047 | 4,524,990 |
| 2021 | 3,714,217 | 128,972 | 500,009 | 402,880 | 4,746,078 |
| 2022 | 3,590,371 | 208,922 | 726,253 | 463,558 | 4,989,104 |
| 2023 | 4,623,445 | 149,913 | 633,578 | 346,212 | 5,753,149 |
| **Average** | **3,694,868** | **165,798** | **566,113** | **378,489** | **4,805,268** |
| | **All Modes** | | | | |
| 2019 | 5,748,775 | 255,864 | 737,373 | 701,498 | 7,443,511 |
| 2020 | 7,391,105 | 239,501 | 770,474 | 538,269 | 8,939,349 |
| 2021 | 6,517,767 | 368,379 | 878,322 | 674,176 | 8,438,644 |
| 2022 | 5,991,885 | 372,820 | 1,364,738 | 819,886 | 8,549,328 |
| 2023 | 7,892,296 | 330,696 | 1,069,337 | 837,142 | 10,129,471 |
| **Average** | **6,708,366** | **313,452** | **964,049** | **714,194** | **8,700,061** |

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

Table 3.3.2.3 describes the recreational directed effort trips by wave for red snapper in the South Atlantic from 2019-2023. Wave 4 (July and August) accounted for the majority of red snapper directed effort trips by the recreational sector (63%), followed by Wave 3 (May and June, 16%) and Wave 2 (March and April, 7%).

**Table 3.3.2.3.** Red snapper recreational directed effort trips, by wave 2019-2023.

| Year | Wave 1 | Wave 2 | Wave 3 | Wave 4 | Wave 5 | Wave 6 |
|---|---|---|---|---|---|---|
| 2019 | 75,837 | 94,182 | 140,717 | 396,784 | 22,786 | 2,186 |
| 2020 | 19,242 | 82,201 | 99,399 | 886,069 | 40,365 | 38,653 |
| 2021 | 6,873 | 40,323 | 155,551 | 220,541 | 113,667 | 56,781 |
| 2022 | 46,909 | 34,166 | 96,590 | 357,552 | 19,274 | 6,738 |
| 2023 | 51,961 | 22,809 | 113,744 | 544,129 | 37,616 | 8,742 |
| **Average** | **40,164** | **54,736** | **121,200** | **481,015** | **46,742** | **22,620** |

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

Table 3.3.2.3 describes the recreational directed effort trips by wave for all snapper grouper in the South Atlantic from 2019-2023. Wave 4 (July and August) accounts for the majority of snapper grouper directed effort trips by the recreational sector (32%), followed by Wave 3 (May and June) and Wave 5 (August and September) (20%, respectively).

**Table 3.3.2.4.** Snapper grouper recreational directed effort trips, by wave 2019-2023.

| Year | Wave 1 | Wave 2 | Wave 3 | Wave 4 | Wave 5 | Wave 6 |
|---|---|---|---|---|---|---|
| 2019 | 816,497 | 719,126 | 1,809,956 | 2,490,603 | 1,087,531 | 519,797 |
| 2020 | 657,932 | 733,573 | 1,845,495 | 2,743,679 | 2,066,352 | 892,318 |
| 2021 | 777,327 | 1,014,443 | 1,308,549 | 2,586,596 | 1,788,765 | 962,965 |
| 2022 | 756,515 | 977,816 | 1,635,205 | 2,509,266 | 1,924,520 | 746,006 |
| 2023 | 969,649 | 852,737 | 1,931,295 | 3,517,853 | 1,728,193 | 1,129,745 |
| **Average** | **795,584** | **859,539** | **1,706,100** | **2,769,599** | **1,719,072** | **850,166** |

**Source:** MRIP Survey Data available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreationalfishing-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 have been variable annually across the South Atlantic States from 2019 through 2023, but on average increased by less than a percent each year (Table 3.3.2.5). On average (2019 through 2023), Florida/Georgia accounted for the majority of headboat angler days reported, followed by South Carolina then and North Carolina (Table 3.3.2.5).

**Table 3.3.2.5.** South Atlantic headboat angler days and percent distribution by state (2019 through 2023).

| | Angler Days | | | Percent Distribution | | |
|---|---|---|---|---|---|---|
| Year | FL/GA* | NC | SC | FL/GA | NC | SC |
| 2019 | 119,712 | 15,546 | 41,470 | 67.74% | 8.80% | 23.47% |
| 2020 | 84,005 | 14,154 | 34,080 | 63.53% | 10.70% | 25.77% |
| 2021 | 120,367 | 19,719 | 47,908 | 64.03% | 10.49% | 25.48% |
| 2022 | 104,989 | 16,140 | 38,748 | 65.67% | 10.10% | 24.24% |
| 2023 | 105,673 | 16,115 | 35,814 | 67.05% | 10.23% | 22.72% |
| **Average** | **106,949** | **16,335** | **39,604** | **65.6%** | **10.1%** | **24.3%** |

**Source:** NMFS SRHS (2023).
*headboat data from Florida and Georgia are combined for confidentiality purposes.

As shown in Table 3.3.2.6, on average headboat angler days across the South Atlantic States from 2019 through 2023 were highest in the Months of July, June and August.

**Table 3.3.2.6.** South Atlantic headboat angler days and percent distribution by month (2019 through 2023).

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Headboat Angler Days | | | | | | | | | | | |
| **2019** | 7,746 | 8,476 | 15,186 | 15,566 | 19,368 | 26,587 | 32,914 | 20,177 | 6,716 | 9,011 | 8,587 | 6,394 |
| **2020** | 6,920 | 7,805 | 8,445 | 407 | 8,711 | 23,250 | 26,565 | 16,320 | 10,973 | 9,855 | 6,251 | 6,737 |
| **2021** | 7,629 | 7,421 | 14,582 | 16,062 | 19,582 | 28,669 | 32,887 | 20,631 | 13,183 | 10,920 | 6,739 | 9,689 |
| **2022** | 6,546 | 8,146 | 10,158 | 13,361 | 17,176 | 24,421 | 27,074 | 20,210 | 10,528 | 8,785 | 6,139 | 7,333 |
| **2023** | 8,211 | 9,483 | 12,264 | 14,225 | 14,766 | 23,341 | 27,554 | 17,264 | 9,009 | 8,544 | 6,841 | 6,100 |
| **Avg** | 7,410 | 8,266 | 12,127 | 11,924 | 15,921 | 25,254 | 29,399 | 18,920 | 10,082 | 9,423 | 6,911 | 7,251 |
| | Percent Distribution | | | | | | | | | | | |
| **2019** | 4% | 5% | 9% | 9% | 11% | 15% | 19% | 11% | 4% | 5% | 5% | 4% |
| **2020** | 5% | 6% | 6% | 0% | 7% | 18% | 20% | 12% | 8% | 7% | 5% | 5% |
| **2021** | 4% | 4% | 8% | 9% | 10% | 15% | 17% | 11% | 7% | 6% | 4% | 5% |
| **2022** | 4% | 5% | 6% | 8% | 11% | 15% | 17% | 13% | 7% | 5% | 4% | 5% |
| **2023** | 5% | 6% | 8% | 9% | 9% | 15% | 17% | 11% | 6% | 5% | 4% | 4% |
| **Avg** | 5% | 5% | 7% | 7% | 10% | 16% | 18% | 12% | 6% | 6% | 4% | 4% |

**Source:** NMFS SRHS (June, 2024).

## 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 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 rule.

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 3.3.2.7. The number of for-hire South Atlantic Snapper-Grouper permits that were valid fell by 2% in 2020, relative to 2019.

**Table 3.3.2.7.** 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.

**Economic Value**

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the additional amount of money that anglers are willing to pay above the amount they actually pay to fish, referred to as willingness to pay (WTP). WTP measures allow for the monetary estimation of a welfare change. 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. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips. Consumer surplus (CS), which is the total WTP for a good or service minus what is actually paid, is a common welfare change metric. An angler's WTP per fish is considered a close approximation to CS when estimating welfare changes in the recreational sector. Therefore, the value of changes in expected catch rates, harvest rates, or existing regulations can be measured by any associated changes in CS. 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 snapper[12] on an angler trip is approximately $100.98 (2023$). This CS estimate is closest to the current retention limit of one fish per person when the season is open. However, an angler's WTP per fish does not capture the entirety of potential CS from a recreational trip. As such, a CS estimate derived from an angler's WTP per fish could be consider a lower bound estimate of changes to overall angler welfare. Because red snapper is a prized species that is highly sought after by recreational anglers, it seems likely that the increased ACLs considered under Action 3 would result in an expansion of overall private and for-hire angler trips. It is not possible to estimate the precise change in effort using existing data and models, so an upper bound estimate of the change in effort will be provided here for comparison to the CS estimate provided earlier. WTP per trip can be defined as the amount of money that anglers are willing to pay above the actual costs for a recreational fishing trip. A CS value derived from a WTP per trip (CS-per trip) value encompasses all cost and surplus aspects of the trip, not just the surplus from an individual fish harvested. CS-per trip is the best representation of CS when considering a change in effort, as opposed to an expected change solely in overall landings. According to Carter, C. (SEFSC, Personal Communication 2024),

[12] 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.

the CSper-trip is estimated to be approximately $210 (2023$).

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 $146,438 (2023$). Holland et al. (2012) also provided an estimate of average annual gross revenue for South Atlantic headboats, which is $258,894 in 2023$. 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 revenue for South Atlantic headboats were approximately $355,255 (2023$) 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 $647 and $2,493 (2023$), respectively. Given the respective average number of anglers per trip for each fleet, PS per angler trip is estimated to be $138 for charter vessels and $88 for headboats.

**Table 3.3.2.8.** Trip economics for offshore trips by South Atlantic charter vessels and Southeast headboats in 2017 (2023$).

| | 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** | $647 | $2,493 |
| **Average # of Anglers per Trip** | 4.7 | 28.2 |
| **Trip Net Cash Flow per Angler Trip** | $138 | $88 |

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 2022 Fisheries Economics of the U.S. report (NMFS 2024) and underlying data provided by the National Oceanic and Atmospheric Administration Office of Science and Technology. Economic impact estimates in 2022 dollars were adjusted to 2023 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 (2019–2023) resulting from South Atlantic red snapper charter, private vessel, directed effort trips are provided in Table 3.3.2.9. Estimates of the average annual economic impacts (2019–2023) resulting from South Atlantic snapper grouper charter, private vessel, and shore target trips are provided in Table 3.3.2.10. To calculate the multipliers from Table 3.3.2.9 and 3.3.2.10, 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 Tables 3.3.2.9 and 3.3.2.10 only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity, because state-level impact multipliers do not account for interstate and interregional trading. It is also important to note that these economic impacts

estimates are based on trip expenditures only and do not account for durable expenditures. Durable expenditures cannot be reasonably apportioned to individual species. As such, the estimates provided in Tables 3.3.2.9 and 3.3.2.10 may be considered a lower bound on the economic activity associated with those trips that targeted red snapper.

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 (2019-2023) from South Atlantic charter and private vessels red snapper directed effort trips, by state, using state-level multipliers. All monetary estimates are in 2023 dollars in thousands.

| | NC | SC | GA | FL |
|---|---|---|---|---|
| **Charter Mode** | | | | |
| Target Trips | 1,299 | 2,942 | 386 | 34,360 |
| Value Added Impacts | $510 | $1,180 | $112 | $15,047 |
| Sales Impacts | $832 | $1,922 | $181 | $23,890 |
| Income Impacts | $363 | $782 | $80 | $10,513 |
| Employment (Jobs) | 9 | 22 | 2 | 226 |
| **Private/Rental Mode** | | | | |
| Target Trips | 13,006 | 39,359 | 33,903 | 641,223 |
| Value Added Impacts | $327 | $730 | $752 | $15,945 |
| Sales Impacts | $567 | $1,274 | $1,318 | $26,820 |
| Income Impacts | $184 | $343 | $364 | $7,498 |
| Employment (Jobs) | 4 | 8 | 7 | 153 |
| **All Modes** | | | | |
| Target Trips | 14,305 | 42,301 | 34,289 | 675,583 |
| Value Added Impacts | $838 | $1,910 | $864 | $30,992 |
| Sales Impacts | $1,399 | $3,196 | $1,499 | $50,710 |
| Income Impacts | $547 | $1,126 | $444 | $18,011 |
| Employment (Jobs) | 13 | 30 | 9 | 379 |

**Table 3.3.2.10.** Estimated average annual economic impacts (2019-2023) from South Atlantic charter and private vessels snapper grouper directed effort trips, by state, using state-level multipliers. All monetary estimates are in 2023 dollars in thousands.

| | NC | SC | GA | FL |
|---|---|---|---|---|
| **Charter Mode** | | | | |
| Target Trips | 32,645 | 23,983 | 2,446 | 117,988 |
| Value Added Impacts | $12,824 | $9,618 | $711 | $51,670 |
| Sales Impacts | $20,910 | $15,671 | $1,149 | $82,036 |
| Income Impacts | $9,116 | $6,377 | $505 | $36,101 |
| Employment (Jobs) | 233 | 180 | 13 | 776 |
| **Private/Rental Mode** | | | | |
| Target Trips | 566,113 | 378,489 | 165,798 | 3,694,868 |
| Value Added Impacts | $14,251 | $7,021 | $3,679 | $91,878 |
| Sales Impacts | $24,699 | $12,249 | $6,446 | $154,541 |
| Income Impacts | $8,009 | $3,302 | $1,782 | $43,205 |
| Employment (Jobs) | 157 | 77 | 34 | 883 |
| **Shore** | | | | |
| Target Trips | 365,292 | 311,723 | 145,207 | 2,895,509 |
| Value Added Impacts | $19,324 | $4,549 | $6,900 | $54,604 |
| Sales Impacts | $32,571 | $7,647 | $11,577 | $89,608 |
| Income Impacts | $11,802 | $2,458 | $3,984 | $29,707 |
| Employment (Jobs) | 235 | 55 | 77 | 585 |
| **All Modes** | | | | |
| Target Trips | 964,049 | 714,194 | 313,452 | 6,708,365 |
| Value Added Impacts | $46,399 | $21,188 | $11,290 | $198,152 |
| Sales Impacts | $78,179 | $35,566 | $19,172 | $326,185 |
| Income Impacts | $28,927 | $12,137 | $6,271 | $109,014 |
| Employment (Jobs) | 625 | 313 | 124 | 2,244 |

The estimates provided in Table 3.3.2.9 and Table 3.3.2.10 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.

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 2019 and 2023, and using national-level multipliers, South Atlantic red snapper target effort generated employment, income, value-added,

and output (sales) impacts of 582 jobs, $34.4 million, $62.7 million, and $118.9 million per year, respectively, on average. During the same period, and using national-level multipliers, South Atlantic snapper grouper directed effort generated employment, income, value-added, and output (sales) impacts of 5,090 jobs, $309.6 million, $570.3 million, and $1.06 billion per year, respectively, on average.

## 3.4 Social Environment

Amendment 59 affects the commercial and recreational management of red snapper and the recreational management of snapper grouper 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, recreational snapper-grouper 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.

### 3.4.1 Commercial Sector

**Landings by State**
The greatest proportion of commercial red snapper catch was landed in Florida and Georgia (average of 82.2% from 2019-2023, SEFSC SEDAR 73 Update Data), followed by North Carolina (11.7%), and South Carolina (5.9%). Georgia and Florida are combined here, but the amount of catch attributed to Georgia is minor. A minor amount of catch was landed in Virginia and in states north of Virginia (0.2%), but caught in South Atlantic waters.

**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%).

**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 | | | |

| State | Community | Unlimited Permits | State | Community | 225-lb Trip-Limited Permits |
|---|---|---|---|---|---|
| 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 2019 through 2023 and communities are presented in the order of their total landings combined for all years. 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 2019 to 2023. 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 28% of the total red snapper landings from 2019 to 2023 is landed in the top two communities of Cocoa and Port Orange, Florida, combined.

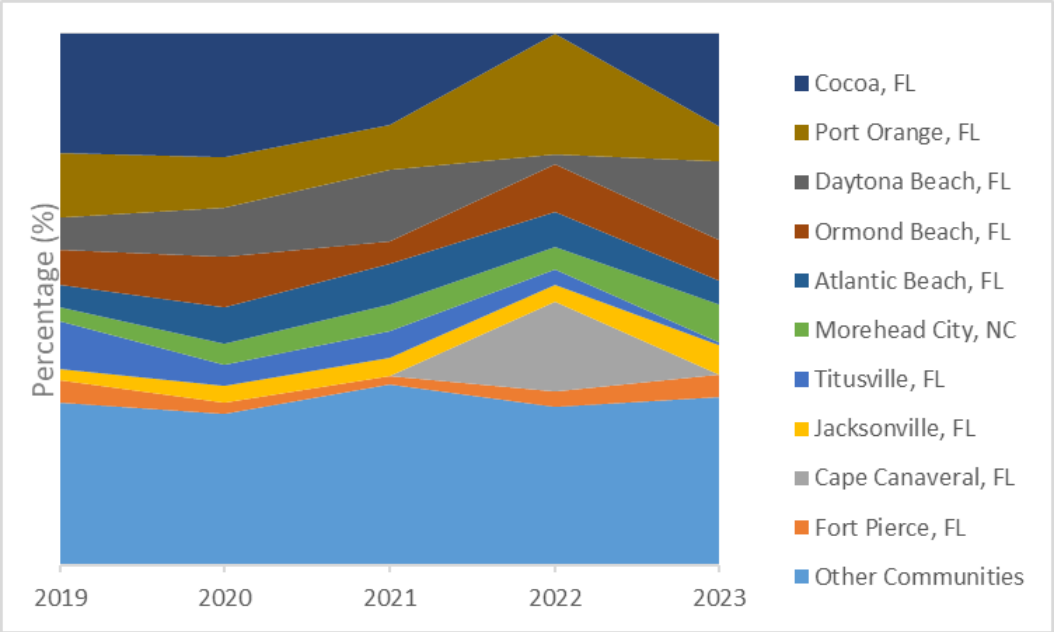



**Figure 3.4.1.1.** Regional Quotient (pounds) for top South Atlantic communities by red snapper landings from 2019 through 2023. The actual RQ values (y-axis) are omitted from the figure to maintain confidentiality.
Source: SERO, Community ALS.

**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, Atlantic Beach, and Titusville, Florida, show the least amount of engagement in commercial fishing overall. All of the included communities demonstrate low commercial reliance.

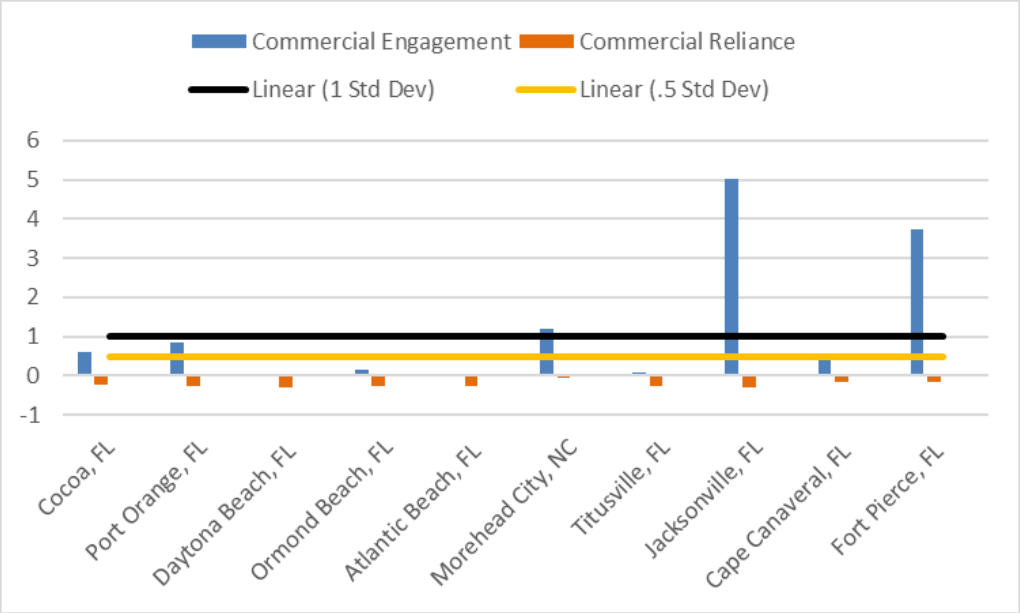



**Figure 3.4.1.2.** Commercial fishing engagement and reliance for top red snapper communities.
Source: SERO, Community Social Vulnerability Indicators Database 2019.

## 3.4.2 Recreational Sector

**Landings by State**
The greatest proportion of recreational red snapper landings came from waters adjacent to Florida and Georgia (average of 83.4% of numbers of fish from 2019-2023, MRIP-FHS Landings Data and SRHS), followed by South Carolina (11%), and North Carolina (5.7%). Florida is combined with Georgia because of the manner in which headboat data are provided and in order to protect confidentiality.

Within Florida and Georgia, the greatest proportion of recreational red snapper landings are by private anglers (89.7% of numbers of fish from 2019-2023, MRIP-FHS Landings Data and SRHS), followed by for-hire vessels (10.3%). Within North Carolina, the greatest proportion of recreational red snapper landings are by private anglers (90.1%), followed by for hire vessels (9.9%). And within South Carolina, the greatest proportion of recreational red snapper landings are by private anglers (93.8%), followed by for-hire vessels (6.2%).

The greatest proportion of recreational snapper grouper landings came from waters adjacent to Florida and Georgia (average of 87.8% of numbers of fish from 2019-2023; ACL Monitoring Data, MRIP/FHS Landings Data, and SRHS), followed by North Carolina (6.9%), and South Carolina (6.9%). Florida is combined with Georgia because of the manner in which headboat data are provided and in order to protect confidentiality.

Within Florida and Georgia, the greatest proportion of recreational snapper grouper landings are by private anglers (87.6% of numbers of fish from 2019-2023; ACL Monitoring Data, MRIP/FHS Landings Data, and SRHS), followed by for-hire vessels (12.4%). Within North

Carolina, the greatest proportion of recreational snapper grouper landings are by private anglers (59.7%), followed by for-hire vessels (40.3%). Within South Carolina, the greatest proportion of recreational snapper grouper landings are by private anglers (62.5%), followed by for-hire vessels (37.5%).

**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 an accurate representation of the species caught 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.

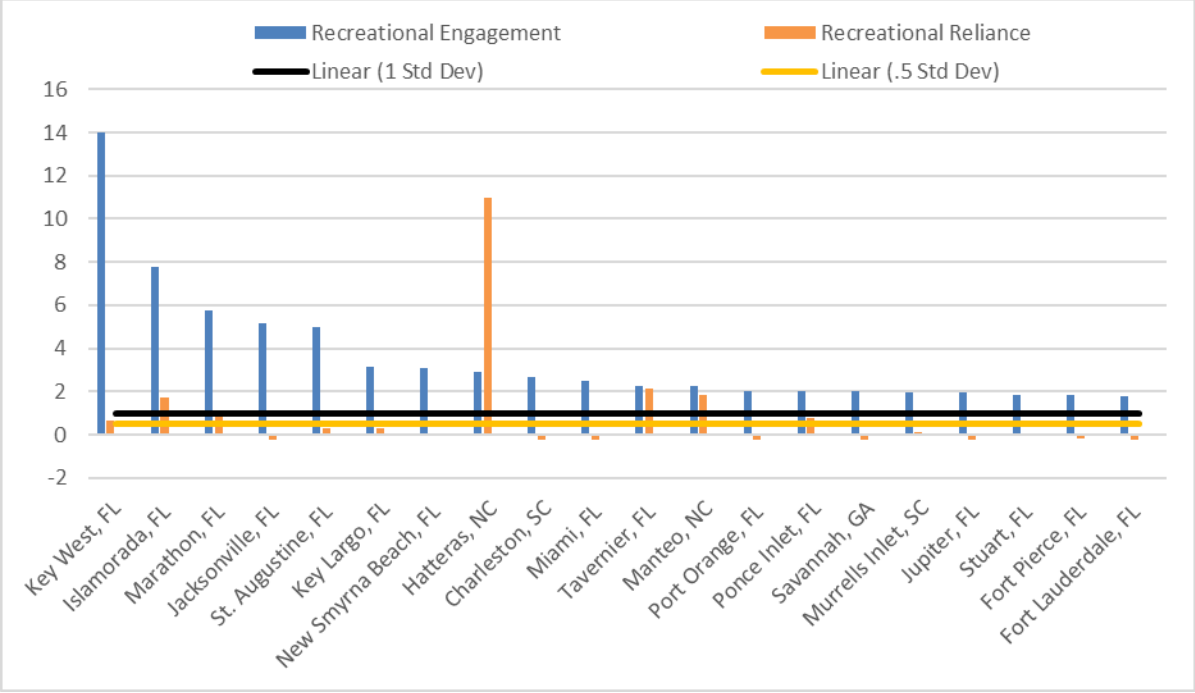



**Figure 3.4.2.1.** Top 20 communities by recreational fishing engagement and reliance.
Source: SERO, Community Social Vulnerability Indicators Database 2019.

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 Amendment 59, 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.

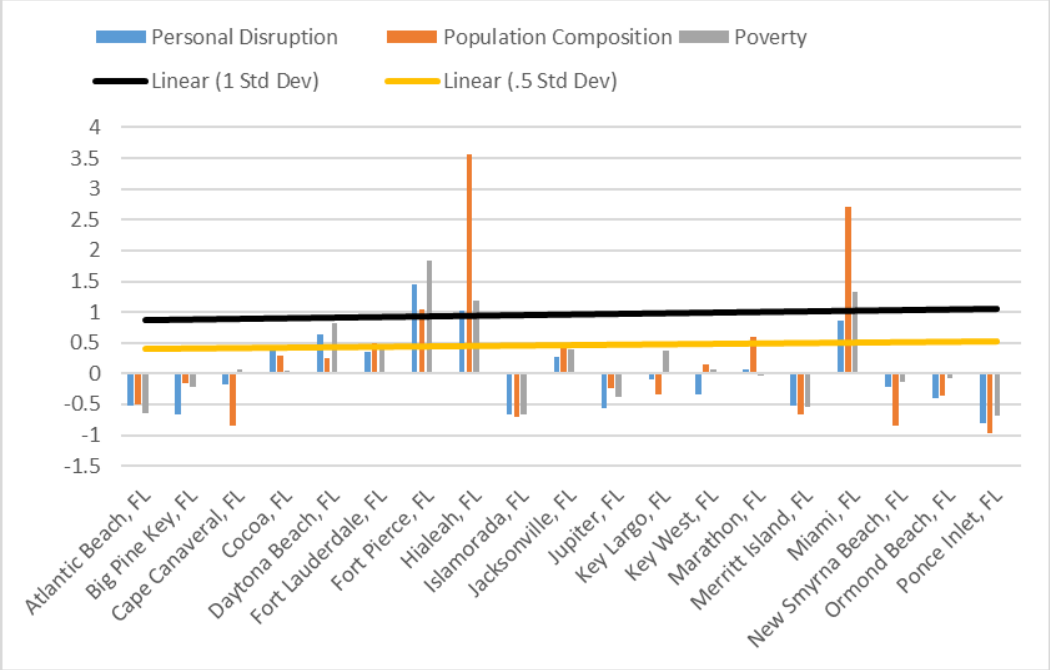



**Figure 3.4.3.1.** Social vulnerability indices for top commercial and recreational snapper-grouper and red snapper communities.
Source: SERO, Community Social Vulnerability Indicators Database 2020.

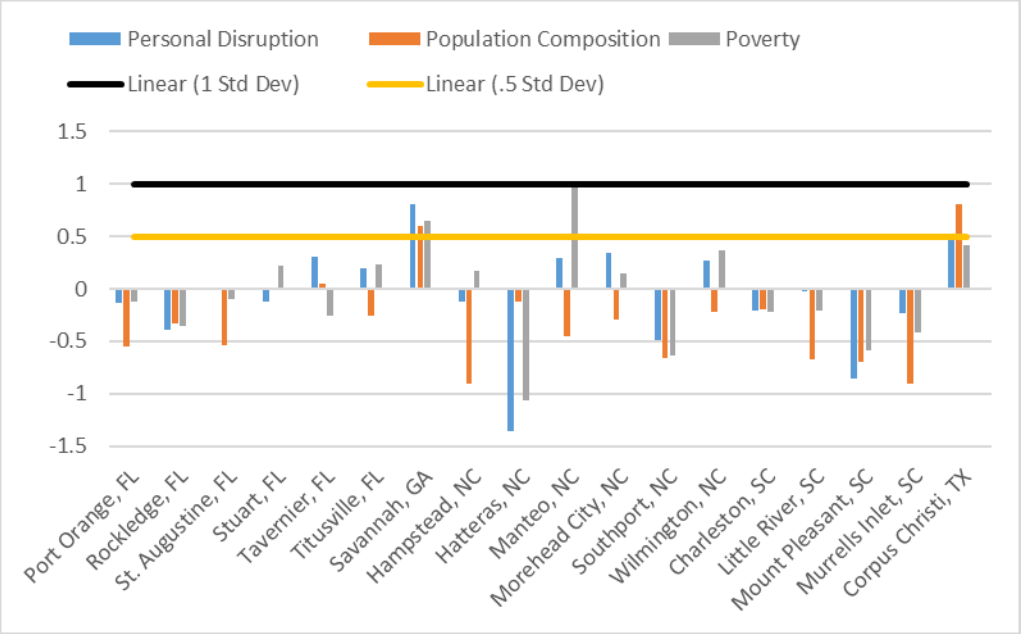



**Figure 3.4.3.2.** Social vulnerability indices for top commercial and recreational snapper-grouper and red snapper communities continued.
Source: SERO, Community Social Vulnerability Indicators Database 2020.

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 or snapper grouper 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 Sections 4.1.3, 4.2.3, 4.3.3, 4.4.3, 4.5.3, 4.6.3, 4.6.7, 4.7.3, and 4.8.3. There are no known populations that rely on the consumption of red snapper for subsistence; however, it has been reported anecdotally that some fishermen use for-hire fishing trips to be able to catch a large amount of fish at one time for themselves and their family's consumption. These trips could include red snapper and likely do include other snapper grouper species. In addition, private recreational anglers may consume their catch and some commercial catch maybe kept for personal consumption. Although no specific EJ issues have been identified here, 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 scientific and statistical committee (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. For the Council's Snapper-Grouper Committee, 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. 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 Council. The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters.

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

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

### 3.5.3 Enforcement

Both the NMFS Office for Law Enforcement (NOAA/OLE) and the USCG have the authority and the responsibility to enforce Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

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

The NOAA Office of General Counsel Penalty Policy and Penalty Schedule is available online at http://www.gc.noaa.gov/enforce-office3.html.

# Chapter 4. Environmental Effects and Comparison of Alternatives

## 4.1 Action 1. Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing

### 4.1.1 Biological Effects

***Expected effects to red snapper, co-occurring species, and essential fish habitat***

**Alternative 1 (No Action)** could indirectly benefit the stock by requiring more conservative management measures be adopted to address Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) overfishing mandates relative to **Preferred Alternative 2**, depending on the reasonable proxy that is used to make overfishing determinations under **Preferred Alternative 2.** If **Alternative 1 (No Action)** were to be selected, then additional regulatory action would be required to reduce red snapper fishing mortality by 85% and discards by 40% (compared to $_{F21-23}$ projections) based on the results of the 2024 SEDAR 73 Update Assessment ($F_{CURRENT} / F_{30\%} = 1.85$).

**Preferred Alternative 2** would update the MSY overfishing definition to be equal to the yield produced by $F_{MSY}$ or a reasonable proxy. The Magnuson-Stevens Act section 303(a)(10) requires fishery management plans (FMP) to have objective and measurable criteria and section 304(e)(1) requires that these criteria be used to determine stock status. New scientific methods may change the best scientific information available (BSIA) under Magnuson-Stevens Act National Standard 2. Sometimes, the status determination criteria (SDC) in the FMP are no longer the BSIA to make status determinations. **Preferred Alternative 2** would provide a more flexible and responsive approach than **Alternative 1 (No Action)** and support prompt status determinations even when the BSIA changes, since no subsequent FMP amendment would be required to move from $F_{MSY}$ to a proxy or to change proxies. The use of flexible and adaptable overfishing definitions is supported by the National Marine Fisheries Service (NMFS) and has been used by the Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) and the New England Fisheries Management Council (New England Council). A reasonable proxy for $F_{MSY}$ is the current fishing mortality ($F_{21-23}$).

Amendment 59 would apply the fishing mortality rate that maintains the rebuilding plan adopted in Amendment 17A as the $F_{MSY}$ proxy based on the results of the 2024 SEDAR 73 Update Assessment. This F is equivalent to the 2021-2023 fishing mortality rate ($F_{2021-23}$) and would be used until the next assessment is completed in 2028 or sooner. The NMFS Southeast Fisheries Science Center has indicated that the use of this proxy for $F_{MSY}$ is based on BSIA. This proxy would allow rebuilding to continue on track with the rebuilding plan over the short-term under prevailing recruitment (see Figure 2.2.1.1). Currently, the OFL for South Atlantic red snapper equals 56,000 fish (landings + discards), based on the Council's SSC's recommendation

following the SEDAR 41 stock assessment (2017). Updating that reference point consistent with an $F_{MSY}$ proxy that maintains rebuilding consistent with Amendment 17A would establish a new OFL of 551,000 fish (76,000 landings + 475,000 discards).

Overfishing occurs whenever a stock or stock complex is subjected to a level of F or total catch that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis. South Atlantic red snapper stock assessments have concluded that F has exceeded the current $F_{30\%SPR}$ $F_{MSY}$ proxy specified by **Alternative 1 (No Action)** almost every year since the red snapper rebuilding plan was implemented in 2010 through Amendment 17A to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP; Amendment 17A). Despite overfishing occurring, the stock has continued to rebuild due to above-average recruitment in recent years and reductions in F since the rebuilding plan was implemented. However, the age structure of the stock remains truncated as the stock continues to rebuild toward $B_{MSY}$, which is why a $F_{30\%SPR}$ proxy indicates overfishing is occurring relative to an $F_{21\text{-}23}$ proxy.

South Atlantic red snapper was determined to be overfished and undergoing overfishing based on the results of SEDAR 73 (2021), which used data through 2019. SEDAR 73 (2021) indicated that the primary driver of overfishing was dead discards from the recreational sector. An update of the SEDAR 73 (2021) stock assessment was completed in December 2024 using data through 2023 (SEDAR 73 Update Assessment). The assessment indicated that the red snapper stock had continued to grow, was no longer overfished, but had not yet rebuilt. Numerous rebuilding projections were provided in the update assessment. SEDAR 73 Update Assessment projections for red snapper (both deterministic and probabilistic) under the high recent average recruitment scenario project the stock would continue to rebuild on schedule at $F_{21\text{-}23}$ through 2028. Thus, maintaining $F_{21\text{-}23}$ through 2028, when the next assessment is completed, would not be expected to jeopardize the stock's capacity to rebuild and produce MSY on a continuing basis.

Using $F_{21\text{-}23}$ under the high recent average recruitment scenario is consistent with the rate that is needed to produce the spawning stock biomass (SSB) at MSY, and therefore overfishing would not be occurring. Although there is some uncertainty as to whether recruitment of red snapper would remain high through 2028, the probabilistic projections of SSB indicate the stock is slightly ahead of the rebuilding schedule adopted in Amendment 17A and could rebuild sooner than the scheduled year of 2044.

Therefore, the risk of using the $F_{21\text{-}23}$ as a proxy for $F_{MSY}$ resulting in overfishing (i.e., jeopardizing the capacity of the stock to produce MSY on a continuing basis) before the new stock assessment incorporating the results of the South Atlantic Red Snapper Research Program and new stock assessment is completed in 2028 is low. The risk of overfishing can be further minimized by reviewing the status of the red snapper stock at 2-year intervals to ensure rebuilding stays on track consistent with Magnuson-Stevens Act section 304(e)(7), and buffering reference points to address related uncertainty.

Revising the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing does not directly affect bycatch; thus, the alternatives proposed under Action 1 would not result in any direct biological effects, positive or negative, on co-occurring species (refer to Bycatch

Practicability Analysis [BPA; Appendix G]). However, the $F_{21\text{-}23}$ $F_{MSY}$ proxy applied in Amendment 59 in combination with **Preferred Alternative 2** would support higher catch levels and lower discard reduction objectives relative to **Alternative 1 (No Action)**. **Actions 3-4** explore and evaluate the tradeoffs of further reducing red snapper discards to minimize bycatch to a greater extent and increase fishing opportunities.

The actions in this amendment are not expected to negatively impact snapper-grouper essential fish habitat (EFH). Fishing effort is not expected to significantly increase as a result of this action, nor are changes in fishing techniques or behavior expected that would affect EFH. The predicted effects on EFH are applicable to all actions in Amendment 59.

***Expected effects to protected species***
The actions in this amendment would not significantly modify the way in which the snapper-grouper fishery is prosecuted in terms of gear types. Therefore, there are no additional impacts on Endangered Species Act (ESA)-listed species or designated critical habitats anticipated as a result of this action (see Section 3.2.4 for a more detailed description of ESA-listed species and critical habitat in the action area). The predicted effects on ESA-listed species and designated critical habitats are applicable to all actions in Amendment 59.

### 4.1.2 Economic Effects

Redefining the $F_{MSY}$ proxy for the overfishing of South Atlantic red snapper would not directly alter the current harvest or use of the resource. Specification of $F_{MSY}$ establishes a benchmark when evaluating the status of a particular stock. Comparing the most recent observed conditions of the fishery against the benchmark aids in determining if adjustments are necessary through additional management actions. The impacts of these management adjustments would be evaluated at the time they are proposed. As a benchmark, the $F_{MSY}$ proxy for red snapper overfishing would not directly limit how, when, where, or with what frequency participants in the fishery engage in harvesting the resource. This includes participants who directly utilize the resource (principally commercial vessels, for-hire operations, and recreational anglers), as well as participants associated with peripheral and support industries. Since there would be no direct effects on resource harvest or use, there would be no direct economic effects on fishery participants, associated industries, or communities. However, benefits or impacts may result indirectly from the $F_{MSY}$ proxy if changes in catch limits or management regulations occur.

### 4.1.3 Social Effects

Social effects of revised biological parameters such as the MSY proxy for overfishing for a stock would be associated with both the biological and economic effects of the modified MSY proxy value. Biological parameters are part of the methodology for determining if a stock is undergoing overfishing. If the methodology does not accurately represent the stock status, the outcome of the overfishing designation when a stock is not undergoing overfishing can have negative long and short-term social effects associated with restricted or no access to the fish. Additionally, if an inaccurate methodology results in a stock designated as not undergoing overfishing when it is undergoing overfishing, the fishing fleets, associated businesses, and communities could be negatively impacted in the long-term due to a decline in the stock, and

negative broader biological impacts of overfishing and future overfished status. Lastly, an inaccurate methodology that causes a stock to fluctuate between overfishing and not overfishing would likely have negative effects on fishery participants by requiring changes in regulations on harvest too often. This could negatively affect stability and planning for commercial fishing businesses, in addition to fishing opportunities for recreational anglers, due to inconsistent access to the resource. While it is the case for some fishermen that any access to a stock would be beneficial, the positive effects of consistency in regulations (even if access is restricted) and stability in the fishery would also be expected from a more fixed designation as overfishing or not overfishing. Overall, social benefits would be expected from the alternative updating values based on the more flexible and responsive approach (**Preferred Alternative 2**). Not utilizing the flexible and adaptable overfishing definition (**Alternative 1 (No Action)**) is expected to result in negative social effects to fishing communities by not accurately portraying the status of the stock or providing the resulting benefits of correctly portraying its recovery.

### 4.1.4 Administrative Effects

The administrative effects of **Preferred Alternative 2** would be less than under **Alternative 1 (No Action)**. Under **Preferred Alternative 2**, a flexible approach would be adopted for specifying the overfishing definition. Based on outcomes from a stock assessment, scientists may recommend using new or different criteria than the overfishing definition specified in an FMP because they regard the new criteria as a better indicator of stock status. **Preferred Alternative 2** would allow for the use of a new overfishing definition as long as NMFS determines it is BSIA to support a stock status determination. Because status determinations must be based on the SDC in the FMP per the Magnuson-Stevens Act, NMFS does not use these new criteria for official stock status determinations until they are adopted in an FMP. **Alternative 1 (No Action)** would not allow for the use of a flexible approach in specifying an overfishing definition, and would require a new amendment to an FMP to change this definition when scientists recommend a different approach for defining overfishing. Adopting new SDC can result in delays in updating stock status determinations because amending an FMP can be a lengthy process. Thus, the administrative burden of **Alternative 1 (No Action)**, would be greater than **Preferred Alternative 2**. The use of flexible overfishing and overfished SDC in FMPs that enable more timely stock status determinations in such situations has been adopted by the Mid-Atlantic Council and New England Council.

## 4.2 Action 2. Modify the acceptable biological catch for red snapper

### 4.2.1. Biological Effects

During 1992-2023, total removals (landings and dead discards; numbers of fish) of South Atlantic red snapper ranged from 49,610 fish to 982,450 fish (Table 4.2.1.1). Total removals for the commercial sector ranged from 6,880 fish to 45,510 fish, and for the recreational sector, 49,610 fish to 982,450 fish (Table 4.2.1.1).

**Table 4.2.1.1**. Total removals of South Atlantic red snapper by sector from 1992 to 2023 in number of fish.

| Year | Commercial Landings (# of fish) | Commercial Dead Discards (# of fish) | Commercial Total Removals (# of fish) | Recreational Landings (# of fish) | Recreational Dead Discards (# of fish) | Recreational Total Removals (# of fish) | Total Removals (# of fish) |
|---|---|---|---|---|---|---|---|
| 1992 | 8,570 | 8,890 | 17,460 | 80,800 | 15,240 | 96,040 | 113,500 |
| 1993 | 20,810 | 7,710 | 28,520 | 37,240 | 66,850 | 104,090 | 132,610 |
| 1994 | 18,680 | 9,740 | 28,420 | 40,620 | 47,160 | 87,780 | 116,200 |
| 1995 | 15,770 | 9,720 | 25,490 | 25,990 | 34,020 | 60,010 | 85,500 |
| 1996 | 12,270 | 9,550 | 21,820 | 35,380 | 15,260 | 50,640 | 72,460 |
| 1997 | 9,600 | 10,310 | 19,910 | 22,440 | 7,260 | 29,700 | 49,610 |
| 1998 | 8,250 | 7,420 | 15,670 | 46,340 | 40,970 | 87,310 | 102,980 |
| 1999 | 9,270 | 6,260 | 15,530 | 104,230 | 120,800 | 225,030 | 240,560 |
| 2000 | 11,190 | 6,700 | 17,890 | 147,570 | 205,350 | 352,920 | 370,810 |
| 2001 | 21,670 | 6,970 | 28,640 | 145,550 | 199,040 | 344,590 | 373,230 |
| 2002 | 20,540 | 12,390 | 32,930 | 166,080 | 127,670 | 293,750 | 326,680 |
| 2003 | 14,420 | 3,970 | 18,390 | 66,500 | 149,780 | 216,280 | 234,670 |
| 2004 | 17,170 | 970 | 18,140 | 113,860 | 267,850 | 381,710 | 399,850 |
| 2005 | 12,440 | 4,780 | 17,220 | 62,520 | 51,840 | 114,360 | 131,580 |
| 2006 | 7,590 | 2,180 | 9,770 | 68,800 | 173,310 | 242,110 | 251,880 |
| 2007 | 11,060 | 5,000 | 16,060 | 66,880 | 379,930 | 446,810 | 462,870 |
| 2008 | 30,140 | 4,740 | 34,880 | 342,510 | 547,860 | 890,370 | 925,250 |
| 2009 | 40,130 | 5,380 | 45,510 | 443,950 | 373,480 | 817,430 | 862,940 |
| 2010 | 750 | 6,130 | 6,880 | 540 | 186,990 | 187,530 | 194,410 |
| 2011 | 60 | 14,680 | 14,740 | 1,420 | 80,230 | 81,650 | 96,390 |
| 2012 | 750 | 7,450 | 8,200 | 20,130 | 117,130 | 137,260 | 145,460 |
| 2013 | 2,950 | 6,250 | 9,200 | 8,970 | 71,210 | 80,180 | 89,380 |
| 2014 | 6,690 | 10,100 | 16,790 | 40,380 | 217,960 | 258,340 | 275,130 |
| 2015 | 570 | 11,400 | 11,970 | 2,780 | 373,780 | 376,560 | 388,530 |

| Year | Commercial Landings (# of fish) | Commercial Dead Discards (# of fish) | Commercial Total Removals (# of fish) | Recreational Landings (# of fish) | Recreational Dead Discards (# of fish) | Recreational Total Removals (# of fish) | Total Removals (# of fish) |
|---|---|---|---|---|---|---|---|
| 2016 | 390 | 13,510 | 13,900 | 410 | 666,280 | 666,690 | 680,590 |
| 2017 | 10,840 | 7,560 | 18,400 | 28,510 | 422,240 | 450,750 | 469,150 |
| 2018 | 14,850 | 4,980 | 19,830 | 64,370 | 828,610 | 892,980 | 912,810 |
| 2019 | 13,690 | 4,550 | 18,240 | 75,520 | 515,440 | 590,960 | 609,200 |
| 2020 | 15,140 | 9,110 | 24,250 | 76,080 | 882,120 | 958,200 | 982,450 |
| 2021 | 14,440 | 6,940 | 21,380 | 58,600 | 514,910 | 573,510 | 594,890 |
| 2022 | 13,910 | 12,650 | 26,560 | 40,650 | 601,300 | 641,950 | 668,510 |
| 2023 | 13,080 | 13,030 | 26,110 | 122,550 | 483,350 | 605,900 | 632,010 |

Source: NMFS SERO. Commercial average weight (2021-2023) = 9.19 lbs.
Recreational average weight (2021-2023) = 11.085 lbs.

Table 2.2.1 shows the ABC values considered under the alternatives for Action 2.

***Expected effects to red snapper***

Under **Alternative 1 (No Action)**, the acceptable biological catch (ABC) is 53,000 fish (SEDAR 41; 2017). The South Atlantic Fishery Management Council's (Council) Scientific and Statistical Committee (SSC) developed its ABC recommendations based on SEDAR 41, and the total ABC recommendation for 2018 was 53,000 red snapper. The projections of yield streams used in SEDAR 41 (2017) included both landings and dead discards, which were added to obtain an estimate of the total removals. The SSC divided its 53,000 fish ABC recommendation into landed fish (18,000) and discarded fish (35,000). However, the Council and NMFS determined it was not appropriate to rely on those discard estimates for the management of red snapper, and the division of the SSC's ABC recommendation of 53,000 fish into landed fish and discarded fish was not warranted. Instead, the Council developed Amendment 43 to the Snapper-Grouper FMP, which specified a total landed annual catch limit (ACL) of 42,510 fish, which was based on the landings observed during the limited red snapper season in 2014. A commensurate level of dead discards was assumed to occur but was not specified.

**Preferred Alternative 2** and **Alternative 3** would specify an ABC for red snapper, which includes total removals, based on the $F_{21\text{-}23}$ high recent recruitment scenario from the SEDAR 73 Update Assessment. **Preferred Alternative 2** would specify an ABC for red snapper that is equal to 509,000 fish (71,000 landed fish and 438,000 dead discards) (Table 2.2.1). **Alternative 3** would specify an ABC for red snapper that is equal to 464,000 fish ((65,000 landed fish and 399,000 dead discards) (Table 2.2.1).

Biological benefits to the stock would be expected to be greatest for the alternative that incorporates the largest buffer between ABC and OFL to safeguard against scientific uncertainty related to expected recruitment trends and other issues, and results in the least amount of fishing mortality. Among the alternatives being considered, **Alternative 3** would result in the largest

ABC-OFL buffer (16%), followed by **Preferred Alternative 2** (8%), then **Alternative 1** (No Action). **Alternative 1 (No Action)** specifies the lowest level of landed catch at 42,510 fish; however, the magnitude of dead discards is not specified and might not be constrained at an appropriate level. Unlike **Alternative 1 (No Action)**, **Preferred Alternative 2** and **Alternative 3** would specify an ABC in dead discards in addition to landed catch. Subsequent actions in Amendment 59 would identify the needed management measures to ensure target levels of dead discards in **Preferred Alternative 2** and **Alternative 3** are achieved and constrain landings to the total ACL so that overfishing does not occur. Thus, under the alternatives being considered, the biological benefits of the alternatives being considered would be greatest for **Alternative 3** and least for **Alternative 1 (No Action)**.

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

Red snapper are often harvested incidentally when fishing for other snapper-grouper species, such as species in the shallow-water grouper complex, vermilion snapper, gray triggerfish, red porgy, and black sea bass (Appendix F, Table F-3). **Preferred Alternative 2** and **Alternative 3** would require additional regulatory action to reduce discards by at least 8% and 16% from 2021-23 levels, respectively, if **Action 1, Preferred Alternative 2** is selected. This action is not expected to directly affect fishing effort or behavior over the broader snapper-grouper fishery, thus the proposed ABCs under this action would not be expected to result in any direct biological effects, positive or negative, on co-occurring species. However, **Preferred Alternative 2** and **Alternative 3** would support higher red snapper catch levels relative to **Alternative 1 (No Action)** which could indirectly increase bycatch of other snapper-grouper, unless fishermen choose to direct more effort/trips toward red snapper. **Actions 3-4** explore and evaluate the tradeoffs of further reducing red snapper discards to minimize bycatch to a greater extent and increase fishing opportunities (refer to BPA in Appendix F).

### 4.2.2. Economic Effects

The ABC for a species along with corresponding ACL that allow for more fish to be landed can result in increased economic benefits if harvest increases without notable effects on the stock of a species. The opposite is applicable to ABCs that allow for lower landings. The ABC and corresponding ACL does not directly impact the fishery for a species unless harvest changes, fishing behavior changes, or the ACL is exceeded, thereby potentially triggering AMs such as harvest closures or other restrictive measures. As such, ABC and corresponding ACLs that are set above observed landings in a fishery for a species and do not change harvest or fishing behavior may not have realized economic effects. If catch levels are set below observed landings in a fishery, thereby leading to measures that restrict harvest, or conversely are set above observed landings and allow harvest to increase, then there would be anticipated indirect economic effects.

**Alternative 1 (No Action)** would set the ABC for red snapper at 53,000 fish (total removals). Because the ABC would not change relative to the status quo, no immediate and direct economic effects (positive or negative) are expected from **Alternative 1 (No Action)**.

**Preferred Alternative 2** would modify the ABC for red snapper to equal to 92% of OFL = 509,000 fish (71,000 landed fish + 438,000 dead discards). While implemented ACLs directly affect the total amount of fish available for harvest, an ABC controls the overall ACL amount, thus indirectly affecting the total amount of fish available for harvest. As such, modifying the ABC for red snapper to equal 509,000 fish would significantly expand harvest opportunities from the status quo, largely due to the increase in the ACL. As such, the anticipated indirect economic effects of **Preferred Alternative 2** would be an increase overall to net economic benefits for all sectors.

**Alternative 3** would modify the ABC for red snapper to equal 84% of OFL = 464,000 fish (65,000 landed fish + 399,000 dead discards). Similar to **Preferred Alternative 2, Alternative 3**'s ABC would also significantly expand harvest opportunities through an increased ACL, but to a slightly lesser extent than **Preferred Alternative 2**. As such, the anticipated indirect economic effects of **Alternative 3** would also be an increase overall to net economic benefits for all sectors.

### 4.2.3. Social Effects

Social benefits to fishermen and fishing communities would be expected to be the greatest for the alternative that results in the highest catch level for red snapper, while maintaining the sustainability of the resource. This measure would increase the ABC for red snapper, in response to the $F_{21\text{-}23}$ high recent recruitment scenario from the SEDAR 73 Update Assessment. Under **Preferred Alternatives 2** and **Alternative 3**, the ABC for red snapper would be based on the most recent update assessment, include total removals of red snapper to reflect landings and dead discards, and incorporate a buffer between the ABC and OFL to address scientific uncertainty and reduce the risk of overfishing if recruitment is not as high as predicted.

**Alternative 1 (No Action)** would not update the ABC for red snapper based on current information or specify the dead discards of red snapper, and would not provide the social benefits associated with an increase in allowable catch. Red snapper is a popular species, particularly for the recreational sector, and lower catches may affect how often private and for-hire anglers choose to go fishing offshore to target red snapper. 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. A smaller ABC for red snapper, such as the landed catch allowance of 42,510 fish under **Alternative 1 (No Action)** would provide fewer of these benefits when compared to **Preferred Alternatives 2** and **Alternative 3**.

**Preferred Alternatives 2** and **Alternative 3** are based on the updated assessment and each include a buffer between the ABC and OFL. Adjustments to an ABC based on updated information are necessary to ensure the harvest remains sustainable and to provide continued, and in this case, expanded access to the resource. In addition, **Preferred Alternatives 2** and **Alternative 3** are expected to more closely reflect the current abundance and prevalence of red snapper that fishermen also see on the water when compared to **Alternative 1 (No Action)**. **Preferred Alternative 2** would set the ABC to 92% of the OFL and would allow for a landed catch of 71,000 fish. **Alternative 3** would set the ABC to 84% of the OFL, and would allow for

a landed catch of 65,000 fish. **Alternative 3** would provide a greater buffer for scientific uncertainty in the event that recruitment declines more substantially than predicted, but the lower ABC would result in lower social benefits if the ACL is set at or near the **Alternative 3** ABC. Among the action alternatives, **Preferred Alternative 2** would be the most beneficial for fishermen, followed by **Alternative 3.**

### 4.2.4. Administrative Effects

The potential administrative effects of these alternatives differ in terms of the implied restrictions required to constrain landings and dead discards. Thus, among the action alternatives, administrative effects would be expected to be higher for **Preferred Alternative 2** than **Alternative 3**, since the overall ABC would be lower for **Alternative 3**. **Alternative 1 (No Action)** specifies the lowest level of landed catch among the alternatives considered and could require the greatest amount of administrative work to constrain landings to that level.

## 4.3 Action 3. Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits

### 4.3.1. Biological Effects

***Expected Effects to Red Snapper***

**Alternative 1 (No Action)** would retain the total ACL = 42,510 fish in landings (Table 2.3.1). Based on the existing sector allocations of 28.07% commercial and 71.93% recreational, the commercial ACL would remain at 124,815 lbs ww, and the recreational ACL would remain at 29,656 fish (Table 2.3.1). The projections of yield streams used in SEDAR 41 (2017) included both landings and dead discards, which were added to obtain an estimate of the total removals. The total ACL for red snapper of 42,510 fish was specified in the final rule for Amendment 43, which was based on the landings observed during the limited red snapper season in 2014. The SSC had provided an ABC recommendation based on the results of SEDAR 41 (2017) of 53,000 fish, where 18,000 were landed fish and 35,000 were discarded dead. However, the Council and NMFS determined it was not appropriate to rely on those discard estimates for the management of red snapper, and the division of the SSC's ABC recommendation of 53,000 fish into landed fish and discarded fish was not warranted. Instead, the Council developed Amendment 43, which specified a total landed ACL of 42,510 fish. Red snapper ACLs specified since the rebuilding plan was implemented have assumed a certain level of discard mortality would occur in combination with ACLs that reflect landed catch only; however, no regulatory measures were implemented to constrain the level of discard mortality to assumed levels.

**Alternative 2** would reduce dead discards by a minimum of 16% from the baseline (2025-2027 average dead discards from $F_{21\text{-}23}$ projection). **Preferred Alternative 3** and **Alternative 4** would increase the landed portion of the total ACL based on a greater reduction in fish discarded dead (24% or 32%).

The extent of dead discard reduction requirements and buffer from the ABC should take into account Magnuson-Stevens Act mandates and directives; in particular, national standards to minimize bycatch to the extent practicable. High levels of red snapper dead discards impede the ability to achieve optimum yield (OY) in the form of food production and recreational opportunities. **Preferred Alternative 3 and Alternative**s 2 and 4 are designed to explore these tradeoffs. The total ACLs associated with **Alternatives 2-4** are progressively smaller in number because landed fish are generally larger than those that are discarded and so they weigh more than a larger number of smaller fish. The landed portion of the ACL would range from 42,510-172,000 fish under the Action 2 **Preferred ABC Alternative 2**, or from 42,510-131,000 fish under the Action 2 **ABC Alternative 3** (Table 2.3.1).

Under the three projections scenarios for the Action 2 **Preferred ABC Alternative 2,** the commercial season length would range from 36 days (**Alternative 1 (No Action)**) to 178 days **(Preferred Alternative 3, Alternative 4)** (Table 4.3.1.1). The average commercial season length is expected to range from 45 to 166 days before taking into account any changes to the trip limit under Action 5a. The recreational fishing season would range from 2 days

(**Alternative 1 (No Action)**) to 11 days **(Alternative 4)** (Table 4.3.1.2). Longer recreational seasons could result in lower daily catch rates and more fishing days if daily offshore angler fishing effort declines as a result of longer fishing seasons (Powers and Anson 2016).

**Table 4.3.1.1.** South Atlantic red snapper commercial sector season duration projections using Action 2 Preferred Alternative 2 ABC values and Action 3 ACL alternatives, evaluated using three daily catch rates. Season closure dates assume the commercial season starts on the first Monday of July.

| **Action 3 Commercial ACL Alternatives** | **5 Year Minimum Daily Catch Rate (2019-2023)** | | **3 Year Recent Average Daily Catch Rate (2021-2023)** | | **5 Year Maximum Daily Catch Rate (2019-2023)** | |
|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: Commercial ACL = 124,815 lb ww | 4-Sep | 59 | 21-Aug | 45 | 12-Aug | 36 |
| Alternative 2: Commercial ACL = 300,000 lb ww | 18-Dec | 164 | 9-Nov | 125 | 19-Oct | 104 |
| **Preferred Alternative 3: Commercial ACL = 346,000 lb ww** | **-** | **178** | **30-Nov** | **146** | **5-Nov** | **121** |
| Alternative 4: Commercial ACL = 390,000 lb ww | - | 178 | 20-Dec | 166 | 22-Nov | 138 |

**Table 4.3.1.2.** South Atlantic red snapper recreational sector season duration (number of days) projections using Action 2 Preferred Alternative 2 ABC values and Action 3 ACL alternatives, evaluated using three daily catch rates**.**

| **Action 2: ABC Preferred Alternative 2**<br><br>**Action 3 Alternatives** | **Minimum Daily Catch Rate (2018-2023)**<br>*9,526 fish/day* | **Median Daily Catch Rate (2018-2023)**<br>*15,683 fish/day* | **Maximum Daily Catch Rate (2018-2022)**<br>*19,072 fish/day* |
|---|---|---|---|
| **Alternative 1** (29,656 fish) | 3 | 2 | 2 |
| **Alternative 2** (64,000 fish) | 7 | 4 | 3 |
| **Preferred Alternative 3 (85,000 fish)** | **9** | **5** | **4** |
| **Alternative 4** (105,000 fish) | 11 | 7 | 6 |

The extent of dead discard reduction requirements and buffer from the ABC should take into account Magnuson-Stevens Act mandates and directives; in particular, national standards to minimize bycatch to the extent practicable and to manage fisheries for optimum yield (OY). The

OY is the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems; that is prescribed on the basis of the MSY from the fishery, as reduced by any relevant economic, social, or ecological factor; and, in the case of an overfished fishery, that provides for rebuilding to a level consistent with producing the MSY in such fishery. High levels of red snapper dead discards impede the ability to achieve OY in the form of food production and recreational opportunities. The alternatives considered here are designed to explore these tradeoffs and are based on projections from the 2024 SEDAR 73 Update Assessment (92% of OFL is equivalent to 90%Fcurrent; 84% of OFL is equivalent to 80%Fcurrent).

The biological benefits would be expected to be greatest for the alternatives that provide the largest buffers between the total ACL and ABC or OFL to safeguard against uncertainty related to expected recruitment trends, the performance of discard reduction measures, and other issues, and allow the least amount of total removals. The ACL selected in **Alternatives 2-4** would be contingent on the ABC selected in Action 2. None of the ACLs would be expected to result in overfishing of red snapper. Biological effects of all the alternatives would be greatest for lower ACLs that are based on an 80%$F_{21\text{-}23}$ projection from the SEDAR 73 Update Assessment, followed by ACL based on the 90%$F_{21\text{-}23}$ projection. Under **Alternatives 2-4**, landed catch would be constrained by accountability measures, and management measures would be specified in subsequent actions in the amendment to obtain the needed level in dead discards.

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

The preferred ACL for the commercial sector is predicted to result in a fishing season ranging from 121 to 178 days, depending on catch rates. The predicted length of the commercial season is also dependent on the preferred commercial trip limit in Sub-action 5a of this amendment (150 lbs gw). Red snapper are often harvested incidentally by both sectors when fishing for other snapper-grouper species and vice versa, such as vermilion snapper, gray triggerfish, red porgy, and black sea bass (Appendix F, Table F-3). However, this action is not expected to result in substantial changes to fishing activity or behavior in the snapper-grouper commercial sector and thus no substantial change in commercial bycatch of co-occurring species is expected as a result of Action 3.

The preferred ACL for the recreational sector is predicted to result in a fishing season ranging from four to nine days, depending on catch rates. Longer recreational seasons could result in lower daily catch rates and more fishing days if daily offshore angler fishing effort declines as a result of longer fishing seasons (Powers and Anson 2016). However, it is likely that a recreational season of less than nine days may result in derby-like fishing conditions (high effort and higher catch rates). For the increased recreational ACL, in combination with the other actions in this amendment, it is expected to result in reduced recreational dead discards of red snapper. Longer seasons would result in more fish being harvested than discarded. This would also apply to co-occurring species. 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 F, Table F-5). Recreational discards of several snapper-grouper species are higher than the landings for certain modes of fishing (Appendix F, Table F-

9). Accountability measures are in place to constrain recreational catches to the ACLs, thus increasing the red snapper recreational ACL is not expected to have significant effects on co-occurring species.

### 4.3.2 Economic Effects

In general, ACLs that allow more fish to be landed can result in increased net economic benefits. The revised dead discard reduction amounts being considered in **Alternatives 2-4** would increase the total landings of red snapper overall. Thus, in order to achieve the dead discard reduction amounts specified in any of the **Action 3** alternatives, the commercial and recreational sector's ACL for red snapper would increase overall relative to the status quo. Thus, **Alternatives 2-4** are expected to increase harvest opportunities, and are projected to increase the landings of red snapper for both the commercial and recreational sectors. As such, an increase in net economic benefits would be expected from **Action 3, Preferred Alternative 3.**

Commercial Sector

As shown in Table 4.3.2.1, **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. **Alternatives 2-4**, would increase the red snapper commercial sector ACL to 300,000 lbs ww, 346,000 lbs ww, or 390,000 lbs ww for the 2025 fishing season, respectively.

**Table 4.3.2.1**. Difference between the commercial sector ACLs in **Action 3** compared to **Alternative 1 (No Action)**.

| Fishing Year | Commercial Sector ACL when ABC=509,00 (lbs ww)[1,2] | Difference from Alternative 1 (No Action) (lbs ww)[1] | Difference from Alternative 1 (No Action) (%) |
|---|---|---|---|
| Action 3, Alternative 2 | | | |
| 2025 | 300,000 | 175,185 | 140% |
| **Action 3, Preferred Alternative 3** | | | |
| **2025** | **346,000** | **221,185** | **177%** |
| Action 3, Alternative 4 | | | |
| 2025 | 390,000 | 265,185 | 212% |

[1]Assumes a 1.11 ww to gw conversion factor.
[2]Based on sector ACL included in Section 2.1.

To estimate the change in potential net economic benefits as shown in Table 4.3.2.2 for the commercial sector, the difference in the current and potential future commercial portion of the total ACL (as shown in Table 4.3.2.1) is applied to the appropriate ex-vessel price ($6.26/lbs ww; Tables 3.3.1.2 and 3.3.1.3) for the commercial sector. A further scaling factor of 25.6% is applied to gross revenue to estimate Producer Surplus (PS) (Section 3.3.1; Liese 2023) because **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4**, are all expected to increase the

number of red snapper commercial target trips relative to the status quo and trip-level operating costs. This assumption is based on a relatively high percentage of total trip-level revenue (33%; Section 3.3.1) derived from red snapper on trips that harvested red snapper, indicating the species is more than just incidental harvest. Because new trips or additional effort on trips that would have otherwise occurred under the status quo would be expected in response to the greater ACLs, even with the increased trip limit under **Action 5a, Preferred Alternative 3**, the costs associated with those trips must be accounted for in the producer surplus estimates. If these assumptions do not hold, the change in net economic benefits to the commercial sector would likely fall somewhere between the ex-vessel revenue and PS estimates presented in Table 4.3.2.2. It is assumed that **Action 3, Preferred Alternative 3** would not cause a change to ex-vessel price 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, other snapper and grouper species from the South Atlantic and Gulf regions, and imports. Therefore, changes to consumer surplus (CS) for seafood consumers are expected to be minimal. In summary, the estimated change in PS represents the expected change in net economic benefits for the commercial sector.

The increased availability of commercial landings under **Alternative 2-4** would result in increases of revenues and net economic benefits, represented by PS, for commercial vessels. As shown in Table 4.3.2.2, when the ABC=509,000 fish, **Preferred Alternative 3** would result in an estimated increase in PS of $ 393,532 compared to **Alternative 1 (No Action)** in the 2025 fishing year (2023$). The increase of landings under **Alternative 2 or 4** compared to **Alternative 1 (No Action)** would also result in an estimated increase in PS of $311,689, or $471,817 in the 2025 fishing year, respectively (2023$). These estimated changes in net economic benefits are a total for all vessels combined.

**Table 4.3.2.2.** Estimated change in net economic benefits for the commercial sector (PS) from the alternatives in Action 3 compared to Alternative 1 (No Action) (2023 $).

| Required Dead Discard Reduction | Change in Commercial Net Benefits | |
|---|---|---|
| | PS | Ex-Vessel Revenue |
| Alt.2 - 16% | $280,801 | $1,096,879 |
| **Preferred Alt.3 - 24%** | $354,534 | $1,384,897 |
| Alt.4 - 32% | $425,060 | $1,660,393 |

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 increase because of **Alternatives 2-4**. Since red snapper make up approximately 6% 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 small (Section 3.3.1).

Recreational Sector

**Alternative 1 (No Action)** would maintain the current recreational sector ACL of 29,656 fish. As shown in Table 4.3.2.3, When the ABC=509,000 fish, **Preferred** A**lternative 3** would result in a recreational sector ACL=85,000 fish, or an increase of 187% from **Alternative 1 (No Action)**. **Alternative 2** would result in a recreational sector ACL=64,000 fish, or an increase of 116% from **Alternative 1 (No Action)**. **Alternative 4** would result in a recreational sector ACL=105,000 fish, or an increase of 254% from **Alternative 1 (No Action)**.

**Table 4.3.2.3**. Difference between the recreational sector ACLs in **Action 3** compared to **Alternative 1 (No Action)** when the ABC=509,000 fish.

| Fishing Year | Recreational Sector ACL when ABC=509,000 (# fish) | Difference from Alternative 1 (No Action) (# fish)[1] | Difference from Alternative 1 (No Action) (%) |
|---|---|---|---|
| Action 3, Alternative 2 | | | |
| 2024 | 64,000 | 34,344 | 116% |
| **Action 3, Preferred Alternative 3** | | | |
| **2024** | **85,000** | **55,344** | **187%** |
| Action 3, Alternative 4 | | | |
| 2024 | 105,000 | 75,344 | 254% |

[1]Based on sector ACL included in Section 2.3.

To generate lower bound estimates for the change in net economic benefits for the recreational sector, it is assumed the additional red snapper harvested under the increased ACLs would occur on existing private and for-hire angler trips, with no overall change in effort. A CS estimate of $100.98 for the second red snapper kept on a recreational trip is used (2023$; Section 3.3.2) to estimate the value of the additional harvested fish. This CS estimate is closest to the current retention limit of one fish per person when the season is open. Here, 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. Based on the assumptions used to generate these lower bound estimates, there would be no change in for-hire business PS and net economic benefits would be based entirely on the CS received by anglers for the additional fish harvested. Later in this section, we present upper bound estimates of the change in net economic benefits and corresponding assumptions, which do account for an expansion in effort.

The increase of potential landings under **Alternatives 2-4** would result in an increase in CS for recreational anglers. As shown in Table 4.3.2.4, if the ABC=509,000 fish. **Preferred Alternative 3** would result in an estimated increase in CS of $5,588,976 in the 2025 fishing year (2023 $) when compared to **Alternative 1 (No Action)**. The increase of potential landings under

**Alternative 2, or 4** would result in an estimated increase in CS for recreational anglers of $3,468,267, or $7,608,699 respectively (2023$).

**Table 4.3.2.4.** Estimated change in potential net economic benefits for the recreational sector (CS per fish) from the alternatives in Action 3 compared to Alternative 1 (No Action) (2023 $).

| Required Dead Discard Reduction | Change in Recreational Net Benefits |
|---|---|
| | ABC=509,000 fish |
| Alt.1 - 0% | |
| Alt.2 - 16% | $3,468,267 |
| **Preferred Alt.3 - 24%** | **$5,588,976** |
| Alt.4 - 32% | $7,608,699 |

Because red snapper is a prized species that is highly sought after by recreational anglers, it seems likely that the increased ACLs considered under Action 3 would result in an expansion of overall private and for-hire angler trips. It is not possible to estimate the precise change in effort using existing data and models, so an upper bound estimate of the change in effort will be provided here for comparison to the lower bound estimate provided earlier. This range should in theory encompass the possible outcomes that would be expected from this action. To generate upper bound estimates for the change in net economic benefits for the recreational sector, it is assumed each additional red snapper harvested under the increased ACLs would occur on an entirely new private or for-hire angler trip. Because the bag limit for red snapper is only one fish, the increase to total directed trips is assumed to equate to the overall increase in the total recreational ACL (i.e. a 1 fish increase to the red snapper recreational ACL = 1 new recreational trip). To estimate the change in net economic benefits for the private vessel component of the recreational sector, a CS per recreational fishing trip estimate of $210 (Carter, D. Personal Communication 2024) is multiplied against the total expected increase in directed snapper grouper trips resulting from the **Action 3** alternatives. The total increase in recreational trips for the private vessel component is proportional to its representation in the average total directed snapper grouper trips from 2019-2023.

As shown in Table 4.3.2.5, if the ABC=509,000 fish. **Preferred Alternative 3** would result in an estimated increase in total CS of $16,152,812 in the 2025 fishing year (2023 $) when compared to **Alternative 1 (No Action)**. The increase of potential private vessel and for-hire angler trips under **Alternative 2**, or **4** would result in an estimated increase in CS for the private and for-hire components of the recreational sector of $12,162,117, or $19,953,474 respectively (2023$).

**Table 4.3.2.5.** Estimated change in potential net economic benefits for the recreational sector (CS per trip) from the alternatives in Action 3 compared to Alternative 1 (No Action) (2023 $).

| Required Dead Discard Reduction | Net Benefits | Trips |
|---|---|---|
| Alt.2 - 16% | $12,162,117 | 57,937 |
| **Preferred Alt.3 - 24%** | **$16,152,812** | **76,948** |
| Alt.4 - 32% | $19,953,474 | 95,054 |

The change in net economic benefits for for-hire vessels and headboats can be measured by annual PS. In general, PS is the amount of money a vessel owner earns in excess of variable (trip) costs. Under the upper bound assumptions, angler demand for for-hire trips would increase if the open season for red snapper is expanded as a result of an increased ACL from **Action 2**, higher booking rates would be expected, and in turn, increases in for-hire business PS would be expected from **Action 3** alternatives. Thus, increasing the recreational ACL for red snapper would likely increase net economic benefits for the for-hire component of the recreational sector. To estimate the change in net economic benefits for the charter and headboat components of the recreational sector, a PS estimate of $138 and $88 (2023 $), respectively, is multiplied against the total expected increase in directed snapper grouper trips for that component resulting from **Action 3** alternatives. Again, the increase to total directed trips is assumed to equate to the overall increase in the total recreational ACL (i.e. a 1 fish increase to the red snapper recreational ACL = 1 new recreational trip). The total increase in recreational trips for the charter and headboat[13] components is proportional to their representation in the average total directed snapper grouper from 2019-2023.

The increase of trips under **Alternatives 2-4** would result in an increase in PS for the for-hire components of the recreational sector. As shown in Table 4.3.2.6, if the ABC=500,000 fish, **Preferred Alternative 2** would result in an estimated increase in total PS of $850,336 in the 2025 fishing year (2023 $) when compared to **Alternative 1 (No Action)**. The increase of potential for-hire angler trips under **Alternative 2** would result in an estimated increase in PS for the for-hire components of the recreational sector of $640,253 when compared to **Alternative 1 (No Action)**. The increase of potential for-hire angler trips under **Alternative 2** would result in an estimated increase in PS for the for-hire components of the recreational sector of $1,050,415, when compared to **Alternative 1 (No Action)**.

**Table 4.3.2.6.** Estimated change in potential net economic benefits for the for-hire businesses (PS) from the alternatives in Action 3 compared to Alternative 1 (No Action) when the ABC=509,000 fish (2023 $).

| | Charter | | Headboat | |
|---|---|---|---|---|
| **Required Dead Discard Reduction** | **Net Benefits** | **Trips** | **Net Benefits** | **Trips** |
| Alt.2 - 16% | $294,608 | 2,135 | $345,645 | 3,928 |

[13] Headboat effort is recorded by the SRHS and in terms of angler-days. Angler-days are assumed to equal 1 recreational trip in this instance.

| | Charter | | Headboat | |
|---|---|---|---|---|
| **Required Dead Discard Reduction** | **Net Benefits** | **Trips** | **Net Benefits** | **Trips** |
| **Preferred Alt.3 - 24%** | $391,276 | 2,835 | $459,060 | 5,217 |
| Alt.4 - 32% | $483,341 | 3,502 | $567,074 | 6,444 |

Total Commercial and Recreational Net Benefits

**Lower Bound Estimates**

As shown in Table 4.3.2.7, if the ABC=509,000 fish, **Preferred Alternative 3** would increase net economic benefits by $5,982,509 in the 2025 fishing year compared to **Alternative 1 (No Action)** (2023$). In comparison to **Alternative 1 (No Action)**, **Alternative 2** would increase net economic benefits by $3,779,956 in the 2025 fishing year (2023$). **Alternative 4** would increase net economic benefits by $8,080,515 in the 2025 fishing year (2023$).

**Table 4.3.2.7.** Estimated change in potential net economic benefits for the commercial sector (PS) and recreational sector (CS, per fish) from the Alternatives in Action 3 compared to Alternative 1 (No Action) (2023$).

| **Required Dead Discard Reduction** | **Change in Total Net Benefits** |
|---|---|
| | **ABC=509,000** |
| Alt.2 - 16% | $3,749,068 |
| **Preferred Alt.3 - 24%** | **$5,943,510** |
| Alt.4 - 32% | $8,033,759 |

Upper Bound Estimates

Alternatively, the change in potential total net economic benefits from the **Alternatives** in **Action 3** can be estimated by adding the net changes in economic benefits for the commercial sector (PS) with the net changes in economic benefits of the recreational sector using CS per trip, and PS per trip. This estimate will ultimately yield higher total changes to net economic benefits because the CS per trip estimate is over double the value of the CS per fish estimate and because PS is included for for-hire businesses.

As shown in Table 4.3.2.8, if the ABC=509,000 fish, **Preferred Alternative 3** would increase net economic benefits by $17,396,681 in the 2025 fishing year compared to **Alternative 1 (No Action)** (2023$). In comparison to **Alternative 1 (No Action)**, **Alternative 2** would increase net economic benefits by $13,114,059 in the 2025 fishing year (2023$). **Alternative 4** would increase net economic benefits by $21,475,705 in the 2025 fishing year (2023$).

**Table 4.3.2.8.** Estimated change in potential total net economic benefits from the Alternatives in Action 3 compared to **Alternative 1 (No Action)** for the commercial sector (PS) and recreational sector using CS per trip, and PS per trip (2023$).

| Required Dead Discard Reduction | Change in Total Net Benefits |
|---|---|
| | ABC=509,000 |
| Alt.2 - 16% | $13,083,171 |
| **Preferred Alt.3 - 24%** | $17,357,681 |
| Alt.4 - 32% | $21,428,949 |

### 4.3.3 Social Effects

Using the reduced dead discards of red snapper to increase annual catch limits could generate positive effects among the commercial, for-hire, and private recreational sectors and result in positive direct and indirect social effects through increased access to fishing. However, the action of reducing the discards is expected to generate negative impacts among those recreational portions of the fishery that would experience the proposed closures or restrictions on fishing and those proposed restrictions are analyzed in Action 4 in this Amendment.

**Alternative 1 (No Action)** would involve no reduction in discards and an ACL of 124,815 lbs ww for the commercial sector during the 2025 fishing season, along with an ACL of 29,656 fish for the recreational sector. **Alternatives 2** through **4** would increase the total and sector-specific ACLs for red snapper in response to reducing dead discards, with **Alternative 2** specifying the smallest percentage of required dead discards (16%) and the smallest increase in ACLs (233,000 or 300,000 lbs ww for the commercial sector and 40,000 or 64,000 fish for the recreational sector). Meanwhile, **Preferred Alternative 3** specifies a 24% reduction in dead discards, a commercial ACL of 284,000 or 346,000 lbs ww, and a recreational ACL of 59,000 or 85,000 fish. Finally, **Alternative 4** would involve a 32% reduction in dead discards, a commercial ACL of 330,000 or 390,000 lbs ww, and a recreational ACL of 80,000 or 105,000 fish.

Given a substantial increase in allowable landings, the commercial sector would likely experience the greatest measure of positive social effects from this action. The greatest social benefits would likely be experienced among commercial fishermen under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Social effects on the commercial sector are most likely to be experienced in Florida which accounts for the greatest proportion of commercial landings (>80%), and particularly the communities of Cocoa and Port Orange, Florida, which together account for 28% of red snapper landings (Section 3.4). Other top red snapper landings communities that would likely experience positive social effects include Daytona Beach, Ormond Beach, Atlantic Beach, Titusville, Jacksonville, Cape Canaveral, and Fort Pierce in Florida, and Morehead City in North Carolina.

The recreational sector would likely also benefit from a substantial increase in catch under this action although portions of the sector could be negatively impacted by the proposed closures or restrictions on fishing needed to meet the specified discard reductions. The greatest social benefits would be experienced by recreational anglers and for-hire businesses through increased ACLs under **Alternative 4**, followed by **Preferred Alternative 3**, and **Alternative 2**. Communities in Florida would likely experience the most extensive effects as >80% of recreational red snapper landings occur in waters off Florida (followed by South Carolina and North Carolina, Section 3.4).

### 4.3.4 Administrative Effects

The administrative effects of **Alternatives 1 (No Action)** through **Alternative 4** would be expected to be similar. Commercial seasons could be easier to monitor as landings would be extended over a longer period of time due to higher catch limits. Under all alternatives, a recreational fishing season would be specified ahead of the start of the season with an opening in summer with projected closing dates. Similarly, the commercial season would open in May, June, or July, and the commercial ACL would be expected to be met under all the alternatives considered. A May 1 commercial opening is the preferred alternative in Action 5b.

## 4.4 Action 4. Establish New Management Measures to Achieve Dead Discard Targets

### 4.4.1. Biological Effects

***Expected effects to red snapper, co-occurring species, bycatch, and discards***

**Alternative 1 (No Action)** would not establish new management measures for the recreational sector to achieve dead discard targets for red snapper. Discards of red snapper would continue to be very high due to fishermen targeting co-occurring species, particularly outside of the short red snapper fishing season. Bycatch of red snapper is commonly associated with catches of black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper, and gray triggerfish. **Alternative 1 (No Action)** would continue to result in overfishing of red snapper.

**Alternative 2** through **Alternative 4**, and their associated sub-alternatives, would be expected to have beneficial effects to the red snapper stock due to reduced discards in specific areas and at specific times. For the alternatives being considered, each sub-alternative would be expected to achieve the same level of discard reduction and the difference in effects between them would be minimal. For example, under **Alternative 2**, all of the sub-alternatives would be expected to achieve discard reductions of about 16-17%, through the combination of year-round location based discard reduction zones or temporal based discard reduction zones. **Alternative 3** and associated sub-alternatives would achieve about 24-25% reduction in discards. **Alternative 4**, **Sub-alternative 4c** would provide the greatest reduction in discards (35%) followed by **Alternative 4**, **Sub-alternative 4b (33%)** and **Alternative 4**, **Sub-alternative 4a (32%)**.

While the red snapper recreational seasons have been short in recent years, fishermen routinely catch red snapper while fishing for other co-occurring species such as black sea bass, red grouper, gag, scamp, greater amberjack, vermilion snapper and gray triggerfish. It is expected that 22-32% of red snapper released after being caught do not survive after being returned to the water and are considered 'dead releases' or 'dead discards'. Most red snapper are discarded when red snapper harvest is prohibited. The discard reduction areas and times would increase benefits to red snapper by reducing discards and harvest in certain locations and times.

It is expected that the larger discard reduction areas would have the greatest benefit to the red snapper stock and snapper-grouper species in general. Lowering the current catch rates would likely provide biological benefits by reducing overall catch of snapper-grouper species, which would reduce harvest and release mortality and increase overall ecosystem health. By reducing overall catch of snapper-grouper species (including red snapper), this action would contribute to addressing overfishing of red snapper by lowering the fishing mortality (the majority of which is discard mortality) experienced by the stock, consistent with both National Standards 1 (ending overfishing) and 9 (reduce bycatch). The beneficial effects of area closures to species in the snapper-grouper complex was well documented in Amendment 14 to the Snapper-Grouper FMP (SAFMC 2007) and Amendment 36 to the Snapper-Grouper FMP (SAFMC. 2016a). These amendments described the effects of fishing on a fish population, and the impacts of removing fishing mortality in an area or during a time period.

Some snapper-grouper species have sexual strategies which potentially make them more susceptible to overfishing. When these species are overfished, and if they are unable to compensate by changing sex at smaller sizes and/or younger ages, then the ratio of males to females within the population can change, potentially diminishing reproductive success either by sperm limitation or social disruption of mating (Coleman et al. 1996). Heavy fishing pressure, which disproportionately removed the larger individual spawning male fish from the population. A decline in the number of males in a population may affect the reproductive fitness of a grouper species. Some species, including gag, snowy grouper, and scamp, annually aggregate in the same locations to spawn, making it easier for fishermen to target and to remove these species in large numbers (Coleman et al. 2000). The largest members of an aggregation are often the most aggressive and therefore, may be the first to be removed by fishing gear (Thompson and Munroe 1974; Gilmore and Jones 1992).

Implementing discard reduction areas and times can provide a refuge for fish species by restricting harvesting practices within designated zones and can also provide non-fishery based benefits while allowing adjacent fisheries operations (Bohnsack 1993). The discard reduction zones may result in improved conservation through biodiversity and ecosystem structure and physical protection of marine communities from damage from terminal fishing gear. The discard reduction zones may also provide critical adult spawning habitat and a refuge for postlarval and juvenile stages of federally managed species and prey. The designation and utilization of these discard reduction zones as a fishery management tool may provide ecological benefit to the marine ecosystem. Evidence suggests "no-take" areas can yield biological benefits, including reductions in bycatch and fishing pressure on target species, ecosystem stresses, and impacts to sensitive benthic habitats. Closed areas and seasons in certain areas have been shown to increase the age and size of the fish stocks, increase stock levels, and improve habitat (Sanchirico 2000).

Closed areas and seasons may provide direct benefit to managed fisheries through: increased distribution of fish eggs and larvae from nonfished areas to adjacent (fished) areas; allowing migration of juvenile and adult fish to and from these nonfished areas; protecting population genetics from selective fishing; protecting against stock collapse from fishing pressure; and allowing more rapid recovery if adjacent stocks should collapse (Bohnsack 1998).

*Summary of effort shifting studies*

Implementation of discard reduction areas and times would likely result in the displacement of fishermen who normally fish in those areas and during those times. If affected vessels do not exit the fishery and they continue to employ a proportion of their historical fishing effort, vessels must relocate to open areas which are likely to be experiencing sub-optimal harvest rates already. Fishing effort could also shift onto inshore species.

Recreational fishermen using hook-and-line fishing gear would be expected to adjust their fishing behavior in response to this annual seasonal closure. Recreational charter vessels and headboats and individual fishermen would likely respond differently to these new proposed regulations. Changes in fishermen behavior have a temporal and spatial context and depend on both economic and biological conditions. Abbot and Haynie (2012) compared the before and

after data of large spatial closures in the Northwest Pacific for the conservation of the red king crab fishery. They found that due to the large spatial closure, fishermen's altered methods caused indirect and direct displacement effects and increased the bycatch of Pacific halibut. In addition, charter and headboat vessels will likely respond differently to regulations (Trudeau et al (2022). Chagaris et al. (2019) found that a temporary closure to the private recreational reef fish would likely impose a strong limitation on angler choice and would likely anger fishermen due to the temporary loss of well-being and satisfaction from the constrained choice. However, the model developed and tested in this study demonstrated potential gains in biomass from scenarios and measures that could be passed to fishermen through higher catch limits, increased bag limits, and smaller minimum sizes.

### 4.4.2 Economic Effects

**Alternative 1** (No Action) would not change current management measures to reduce red snapper dead discards. This is not a feasible option, given the range of ACL alternatives in Action 3, which require, at a minimum, a 16% reduction in dead discards. No economic effects are expected from this alternative.

**Preferred Alternative 3** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24%. **Preferred Sub-alternative 3b** would establish a discard reduction closed area and season for the recreational sector. During December 1 through February 28/29 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (includes trolling gear). The areas are defined by the coordinates shown in Tables 2.1.7, and Figure 2.1.4. **Alternatives 2a**, **2b**, **3a**, **4a**, and **4b** consider other time and area closures as described in **Section 2.4**.

To estimate the changes in net economic benefits resulting from the discard reduction areas and seasons considered in **Action 4**, SRHS snapper grouper trip data from 2019 to 2023 were analyzed spatially in ArcGIS. Latitude and longitude coordinates from recorded SRHS trips were used to identify the mean annual number of headboat trips occurring in the respective discard reduction areas and seasons within each of the **Sub-Alternatives** (Table 4.4.2.1). Additionally, SRHS trip latitude data were used to generate a latitudinal bin for each discard reduction area and season, enabling the estimation of a ratio of the total number of headboat trips in each respective discard reduction area and season relative to the total number of headboat trips in those latitudinal ranges and for those seasons.

MRIP FES-based snapper grouper directed effort estimates for 2019-2023 (EEZ only) were then spatially joined by their corresponding site intercept latitudes to the latitudinal range of the closure coordinates, during the proposed closure periods for each alternative. The assumption is that these trips occur due east of where they were intercepted. This step provided an estimate of the mean annual number of charter and private vessel trips in the latitudinal bins associated with each closed area and season for each alternative.

The headboat trip ratios for the respective discard reduction areas and seasons, as described above, were then multiplied by the number of charter and private vessel trips in each latitudinal bin during the respective closed seasons to apportion them to the specific discard reduction areas and seasons associated with each **Action 4 Alternative** (Table 4.4.2.2). This assumes that headboat spatial fishing patterns are similar to those of charter and private vessels.

Finally, the total number of identified trips (by mode) occurring in the discard reduction areas and seasons for each of the **Action 4 Alternatives** were multiplied by the appropriate CS and PS values (Section 3.3.2) to estimate the economic effects on anglers and for-hire businesses (Table 4.4.2.3 and Table 4.4.2.4). It is assumed that all trips within the closed areas and season for each alternative would be cancelled with no effort redistribution to other times, areas, or activities. If this assumption does not hold, then the effects may be lessened. Each headboat angler trip is estimated to be worth $88 in PS and each charter angler trip is estimated to be worth $138 in PS to headboat and charter businesses, respectively. Each angler is expected to receive $210 in CS per trip (Carter, D. Personal Communication 2024) on charter vessels, headboats, or private vessels.

As shown in Table 4.4.2.5, the total change in net economic benefits for the recreational sector from **Preferred Sub-Alternative 3** is estimated to be approximately -$19.2 million (2023 $). The change in net economic benefits for the other alternatives range from -$11.5 million to -$66.5 million (Table 4.4.2.5).

**Table 4.4.2.1.** Average number of headboat trips occurring in the discard reduction areas and discard seasons for each Alternative in Action 4.

| Sub-Alt 2A | Sub-Alt 2B | Sub-Alt 3A | **Pref. Sub-Alt 3B** | Sub-Alt 4A | Sub-Alt 4B |
|---|---|---|---|---|---|
| 7,212 | 2,295 | 7,929 | **4,669** | 11,965 | 5,553 |

**Source:** MRIP Survey Data[14] and NMFS SRHS (2023).

**Table 4.4.2.2.** Average number of charter and private vessel trips occurring in the discard reduction areas and discard seasons for each Alternative in Action 4.

| **Mode** | Sub-Alt 2A | Sub-Alt 2B | Sub-Alt 3A | **Pref. Sub-Alt 3B** | Sub-Alt 4A | Sub-Alt 4B |
|---|---|---|---|---|---|---|
| Charter Trips | 11,752 | 1,263 | 15,845 | **2,957** | 18,358 | 6,369 |
| Private Trips | 237,715 | 49,499 | 279,123 | **79,804** | 265,595 | 215,609 |

**Source:** MRIP Survey Data and NMFS SRHS (2023).

[14] Available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreationalfishing-data-downloads

**Table 4.4.2.3.** Estimated change in headboat PS and CS from prohibited trips in discard reduction areas and discard seasons for each Sub-Alternative in Action 4 compared to Alternative 1 (No Action).

| Metric | Sub-Alt 2A | Sub-Alt 2B | Sub-Alt 3A | **Pref. Sub-Alt 3B** | Sub-Alt 4A | Sub-Alt 4B |
|---|---|---|---|---|---|---|
| **PS** | -$634,682 | -$201,923 | -$697,739 | **-$410,859** | -$1,052,907 | -$488,695 |
| **CS** | -$1,514,583 | -$481,861 | -$1,665,059 | **-$980,459** | -$2,512,619 | -$1,166,204 |

**Table 4.4.2.4.** Estimated change in charter PS and CS and private vessel CS from prohibited trips in discard reduction areas and discard seasons for each Sub-Alternative in Action 4 compared to Alternative 1 (No Action).

| Metric | Sub-Alt 2A | Sub-Alt 2B | Sub-Alt 3A | **Pref. Sub-Alt 3B** | Sub-Alt 4A | Sub-Alt 4B |
|---|---|---|---|---|---|---|
| Charter CS | -$2,467,964 | -$265,243 | -$3,327,405 | **-$620,936** | -$3,855,153 | -$1,337,511 |
| Charter PS | -$1,621,805 | -$174,302 | -$2,186,581 | **-$408,043** | -$2,533,386 | -$878,936 |
| Private CS | -$49,920,115 | -$10,394,712 | -$58,615,806 | **-$16,758,759** | -$55,774,904 | -$45,277,936 |

**Table 4.4.2.5.** Estimated change in net economic benefits for the recreational sector from the Alternatives in Action 4 (2023 $) compared to Alternative 1 (No Action).

| Metric | Sub-Alt 2A | Sub-Alt 2B | Sub-Alt 3A | **Pref. Sub-Alt 3B** | Sub-Alt 4A | Sub-Alt 4B |
|---|---|---|---|---|---|---|
| PS-Charter | -$1,621,805 | -$174,302 | -$2,186,581 | **-$408,043** | -$2,533,386 | -$878,936 |
| PS-Headboat | -$634,682 | -$201,923 | -$697,739 | **-$410,859** | -$1,052,907 | -$488,695 |
| CS-Charter | -$2,467,964 | -$265,243 | -$3,327,405 | **-$620,936** | -$3,855,153 | -$1,337,511 |
| CS-Headboat | -$1,514,583 | -$481,861 | -$1,665,059 | **-$980,459** | -$2,512,619 | -$1,166,204 |
| CS-Private Vessel | -$49,920,115 | -$10,394,712 | -$58,615,806 | **-$16,758,759** | -$55,774,904 | -$45,277,936 |
| Total | -$56,159,150 | -$11,518,040 | -$66,492,589 | **-$19,179,056** | -$65,728,969 | -$49,149,282 |

### 4.4.3 Social Effects

Discard reduction areas in the form of area closures and time period closures for recreational fishing, harvesting, or possessing of snapper-grouper species using hook-and-line gear can have negative social effects on fishermen if fishing grounds are not open to harvest. Snapper-grouper species are prime target fish for recreational fishing participants and provide benthic fishing opportunities for for-hire and private recreational participants. Hook-and-line is the gear used by the majority of the snapper-grouper recreational sector and a prohibition on fishing with this gear would impact nearly all recreational snapper-grouper fishing participants who utilize the fishing grounds in a particular area. Fishing opportunities and access would be reduced through the creation of discard reduction areas and for-hire businesses could lose profit, potentially affecting their ability to stay in business and employment of captains and crew. For-hire businesses would need to fish for other species or fish in different areas to maintain their operations, such as state waters compared to the EEZ or in adjacent open areas, which may result in user conflicts or overcrowding issues. Private recreational anglers would need to engage in similar tactics if they

desire to fish in marine waters. Additionally, private recreational fishing participants and for-hire businesses could experience increased economic costs associated with travel to other fishing grounds. Area closures can also affect angler satisfaction, impact food security if recreational catch is used for food, change fishing support services in areas where fishing is constrained, and lead to an increased criticism of the government as being overbearing. Furthermore, if only certain areas are closed, affected individuals and businesses might perceive this as unfair, and as placing an unequal or inequitable burden on those who live near to, or whose businesses are located near, the closures. Differing and unequal effects are expected at the community level, with the greatest negative social effects expected in communities located near a discard reduction area. Florida communities located along the central to northern Atlantic coast are expected to be impacted to the greatest extent, along with some coastal Georgia communities located near to the state line because the proposed discard reduction areas are located in adjacent waters. However, long-term social benefits for those throughout the South Atlantic may be associated with the long-term biological benefits of discard reduction areas, such as the benefit to the red snapper stock from a reduction in dead discards and its contribution toward ending overfishing of red snapper, which can contribute to improved fishery resources.

**Action 1 (No Action)** would not establish discard reduction areas in order to achieve dead discards for red snapper. **Alternatives 2** through **4** include area closures (geographic areas at certain latitudes and depths, varying by alternative) and time period closures (year round or closed during specific times during the year, varying by alternative) for fishing for, harvesting, or possessing recreational snapper-grouper while using hook-and-line gear in order to establish discard reduction areas to achieve dead discards for red snapper.

The location of the discard reduction area is expected to be the most significant factor that would negatively impact fisheries participants and communities. In addition, how much fishing occurs in the area (see the economic effects in Section 4.4.2 for effort and loss estimates for each sub-alternative) and the timing of when that area is utilized by fishing participants for fishing and harvesting of snapper-grouper are important factors. In the following analysis, it is assumed that the counties and their associated communities that are located in or nearby to the latitudes for the proposed discard reductions would be the most impacted by those areas. These coastal or coastal linked counties are presented for each sub-alternative. Southeast Region Headboat Survey (SRHS) data was also analyzed by latitudes and coordinates, depths, and by dates to link vessels that have fished for snapper-grouper species in each discard reduction area to specific counties through the address of the vessel. The counties of operation for these headboats are presented for each sub-alternative.

**Alternative 2** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 16% through the prohibition on possessing, fishing for, or harvesting snapper-grouper species by hook-and-line fishing gear in particular areas, unless the vessel is transiting and the gear is appropriately stowed.

**Sub-Alternative 2a** would establish two year round discard reduction areas: one in the EEZ off Jacksonville, Florida, between 30.3° and 30.7° latitudes and between the depths of 80 to 150ft and one in the EEZ off Cape Canaveral, Florida, between 28.3° and 28.7° latitudes and between the depths of 80 to 150 ft. The total area closed to recreational snapper-grouper fishing and

harvesting while using hook-and-line would be about 1,372.86 square miles in **Sub-Alternative 2a**. The counties that would be most impacted by the proposed discard reduction areas in **Sub-Alternative 2a** are the coastal counties located in or nearby to the latitudes for the discard reduction areas off of Jacksonville and Cape Canaveral, Florida, including: Brevard, Duval, and Nassau, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Sub-Alternative 2a**. Headboats fishing in the proposed reduction areas included in **Sub-Alternative 2a** in recent years operated out of the counties of Brevard, Duval, and St. Johns, Florida, (SRHS, 2019-2023) and therefore, headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Sub-Alternative 2a**.

**Sub-Alternative 2b** would establish a discard reduction area from January 1 to February 14 each year in the EEZ between 28° and the Florida/Georgia border (30.7°) in federal waters (3 to 200 miles). The total area closed to recreational snapper-grouper fishing and harvesting while using hook-and-line would be 42,817.99 square miles in **Sub-Alternative 2b**. The counties that would be most impacted by the proposed discard reduction area in **Sub-Alternative 2b** are coastal counties or coastal linked counties located in or nearby the latitudes between 28° and the Florida/Georgia border including: Brevard, Clay, Duval, Flagler, Nassau, St. Johns, and Volusia, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Sub-Alternative 2b**. Headboats fishing in the proposed reduction areas included in **Sub-Alternative 2b** in recent years operated out of the counties of Brevard, Duval, St. Johns, and Volusia, Florida (SRHS, 2019-2023). Headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Sub-Alternative 2b**.

**Alternative 3** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24% through the prohibition on possession of snapper-grouper species by hook-and-line fishing gear in particular areas, unless the vessel is transiting and the gear is appropriately stowed.

**Sub-Alternative 3a** would establish three year round discard reduction areas: the first in the EEZ off Jacksonville, Florida, between 30.3° and 30.7° latitudes and between the depths of 80 to 150ft, the second in the EEZ off St. Augustine, Florida, between 29.5° and 29.9° latitudes and between the depths of 80 to 150 ft, and the third in the EEZ off Cape Canaveral, Florida, between 28.3° and 28.7° latitudes and between the depths of 80 to 150 ft. The total area closed to recreational snapper-grouper harvesting while using hook-and-line would be about 2,028.25 square miles in **Sub-Alternative 3a**. The counties that would be most impacted by the proposed discard reduction areas in **Sub-Alternative 3a** are counties located in or nearby the latitudes for the discard reduction areas off of Jacksonville, St. Augustine, and Cape Canaveral, Florida, including: Brevard, Clay, Duval, Flagler, Nassau, and St. Johns, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Sub-Alternative 3a**. Headboats fishing in the proposed reduction areas included in **Sub-Alternative 3a** in recent years operated out of the counties of Brevard, Duval, St. Johns, and Volusia, Florida (SRHS, 2019-2023). Headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Sub-Alternative 3a**.

**Preferred Sub-Alternative 3b** would establish a discard reduction area from December 1 to February 28/29 each year in the EEZ between 28° and the Florida/Georgia border (30.7°) in federal waters (3 to 200 miles). The total area closed to recreational snapper-grouper harvesting while using hook-and-line would be 42,817.99 square miles in **Preferred Sub-Alternative 3b**. The counties that would be most impacted by the proposed discard reduction area in **Preferred Sub-Alternative 3b** are counties located in or nearby the latitudes between 28° and the Florida/Georgia border including: Brevard, Clay, Duval, Flagler, Nassau, St. Johns, and Volusia, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Preferred Sub-Alternative 3b**. Headboats fishing in the proposed reduction areas included in **Preferred Sub-Alternative 3b** in recent years operated out of the counties of Brevard, Duval, St. Johns, and Volusia, Florida (SRHS, 2019-2023). Headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Preferred Sub-Alternative 3b**.

**Alternative 4** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 32% through the prohibition on possession of snapper-grouper species by hook-and-line fishing gear in particular areas, unless the vessel is transiting and the gear is appropriately stowed.

**Sub-Alternative 4a** would establish four year round discard reduction areas: the first in the EEZ off Jacksonville, Florida, between 30.4° and 30.7° latitudes and between the depths of 70 to 110ft, the second in the EEZ off St. Augustine, Florida, between 29.7° and 29.9° latitudes and between the depths of 70 to 110 ft, the third in the EEZ off Daytona Beach, Florida, between 29.1° and 29.3° latitudes and between the depths of 70 to 110 ft, and the fourth in the EEZ off Cape Canaveral, Florida, between 28.4° and 28.7° latitudes and between the depths of 70 to 110 ft. The total area closed to recreational snapper-grouper harvesting while using hook-and-line would be about 1,382.67 square miles in **Sub-Alternative 4a**. The counties that would be most impacted by the proposed discard reduction areas in **Sub-Alternative 4a** are counties located in or nearby to the latitudes proposed for the discard reduction areas off of Jacksonville, St. Augustine, Daytona Beach, and Cape Canaveral, Florida, including: Brevard, Clay, Duval, Nassau, St. Johns, and Volusia, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Sub-Alternative 4a**. Headboats fishing in the proposed reduction areas in **Sub-Alternative 4a** in recent years operated out of the counties of Brevard, Duval, St. Johns, and Volusia, Florida, (SRHS, 2019-2023). Headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Sub-Alternative 4a**.

**Sub-Alternative 4b** would establish a discard reduction area from January 1 to February 28/29 each year in the EEZ of Jacksonville, Florida, between 30.3° and 30.7° latitudes and between the depths of 80 to 150 ft. The total area closed to recreational snapper-grouper harvesting while using hook-and-line would be 1,007.63 square miles in **Sub-Alternative 4b**. The counties that would be most impacted by the proposed discard reduction area in **Sub-Alternative 4b** are counties located in or nearby to the latitudes for the discard reduction areas off of Jacksonville,

Florida, including: Duval, and Nassau, Florida, and Camden, Georgia. Private anglers and charter vessels in communities within these counties would be expected to be the most impacted by **Sub-Alternative 4b**. Headboats fishing in the proposed reduction areas in **Sub-Alternative 4b** in recent years operated out of the counties of Duval and St. Johns, Florida (SRHS, 2019-2023). Headboats in these counties and their included communities would be expected to be the most impacted by the proposed discard reduction areas in **Sub-Alternative 4a**.

Discard reduction areas that are limited to certain time periods, rather than year round, such as those in **Sub-Alternative 2b** (January 1 to February 14), **Preferred Sub-Alternative 3b** (December 1 to February 28/29), and **Sub-Alternative 4b** (January 1 to February 28/29) could be less impactful to communities and fishing participants, particularly because these winter months historically have included less fishing effort than other months during the year**.** Discard reduction areas in separate and distinct areas located off the coast of certain locations (such as **Sub-Alternative 2a**, **Sub-Alternative 3a**, and **Sub-Alternative 4a**) could create fairness and equity issues through unequal opportunities to access the resource, with impacts centralized in the coastal counties and communities nearby to those areas. Conversely, discard reduction areas with greater and continuous latitude ranges (such as **Sub-Alternative 4b**, which includes the greatest latitude range, followed by **Sub Alternatives 2b** and **Preferred Sub-Alternative 3b**, which include the same latitude range) would impact a greater number of counties and their associated communities; however, they could be considered to be less unfair and unequal because the burden of a closed area is spread throughout more geographies.

### 4.4.4 Administrative Effects

**Alternatives 2** through **4**, including the sub-alternatives, would have impacts on enforcement as establishment of discard reduction areas and times would require more surveillance effort which is resource intensive. The areas described in alternatives 2 through 4 would likely require at-sea enforcement and be difficult to enforce dockside. For recreational fishermen, the discard reduction areas would allow transit under certain conditions and would allow harvest, possession, and retention of species in the snapper-grouper complex by gears other than hook and line gear. These allowances for transit would decrease the enforceability of the restrictions in these areas and increase the burden on enforcement to prove all of the required elements of a violation. A high burden would be associated with enforcement having to prove where a snapper-grouper complex species was caught, the type of gear used, the transit status of vessel and if gear was appropriately stowed. In general, larger closed areas that are clearly defined with regular shapes better allow enforcement to determine if a vessel is inside or outside of a closed area. However, in large closed areas, possession and gear exceptions also require more at-sea enforcement resources to determine whether there is a violation and to gather sufficient evidence necessary to prosecute the potential violation. In addition, NMFS would have some burden to provide notice to the public about the changes in the regulations and the location of any closed areas and accompanying restrictions.

## 4.5 Action 5. Modify Commercial Management Measures to Further Optimize Yield

### 4.5.1. Sub-Action 5a. Increase the Commercial Trip Limit for Red Snapper

#### 4.5.1.1. Biological Effects

***Expected effects to red snapper***

**Alternative 1 (No Action)** would retain the 75 pounds (lbs) gutted weight (gw) trip limit that was put into place through the final rule for Amendment 28 to the Snapper-Grouper FMP. This trip limit was selected to reduce the need for an in-season closure during the season and decrease the direct targeting of red snapper while reducing dead discards. Despite the 75-lb gw trip limit, the commercial season has closed in August or September since 2021 after opening on the second Monday in July each year.

**Alternative 2. Preferred Alternative 3** and **Alternative 4** would increase the commercial trip limit for red snapper from the current 75 lbs gw to as great as 200 lbs gw. Predicted closure dates under alternatives for Sub-Action 5a are shown in Table 4.5.1.1. For the commercial ACL resulting from Preferred Alternative 3 in Action 3, the length of the commercial fishing season for red snapper would be greatest under **Alternative 1 (No Action)** and least under **Alternative 4** (Table 4.5.1.1). Under all the other commercial ACL alternatives in Action 3, the commercial sector would close as early as July 28 and as late as December 20 under the trip limit alternatives considered in in Sub-action 5a (Table 4.5.1.1).

**Table 4.5.1.1.** South Atlantic red snapper commercial season duration projections for four trip limit alternatives: 75 lb gw, 100 lb gw, 150 lb gw, 200 lb gw trip limits, using a 3-year average (2021-2023) to represent daily commercial catch rates. Projections are evaluated for all Action 3 ACL alternatives associated with the Action 2 Preferred Alternative 2 ABC value. Season closure dates assume the commercial season starts on the first Monday of July.

| **Commercial ACL Alternatives** | **75 lb gw trip limit** | | **100 lb gw trip limit** | | **Preferred 150 lb gw trip limit** | | **200 lb gw trip limit** | |
|---|---|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: Commercial ACL = 124,815 lb ww | 21-Aug | 45 | 13-Aug | 37 | 3-Aug | 27 | 28-Jul | 21 |
| Alternative 2: Commercial ACL = 300,000 lb ww | 9-Nov | 125 | 21-Oct | 106 | 26-Sep | 81 | 10-Sep | 65 |

| Commercial ACL Alternatives | 75 lb gw trip limit | | 100 lb gw trip limit | | Preferred 150 lb gw trip limit | | 200 lb gw trip limit | |
|---|---|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| **Preferred Alternative 3: Commercial ACL = 346,000 lb ww** | 30-Nov | 146 | 8-Nov | 124 | **10-Oct** | **95** | 21-Sep | 76 |
| Alternative 4: Commercial ACL = 390,000 lb ww | 20-Dec | 166 | 26-Nov | 142 | 24-Oct | 109 | 2-Oct | 87 |
| | | | | | | | | |

The biological effects of the **Alternatives 2** through **4** proposed in Action 5a would be expected to be neutral compared with **Alternative 1 (No Action)**, because ACLs and AMs are in place to cap harvest, and take action if ACLs are projected to be met or exceeded. Alternatives with larger trip limits could present a greater biological risk to red snapper in terms of exceeding the ACL since the rate of harvest would be greater. However, the quota monitoring system is able to track commercial landings closely and overages of the commercial ACL in recent years has been small, ranging from 1-8% of the commercial ACL. Larger trip limits could also result in earlier commercial closures of red snapper (Table 4.5.1.1), which could lead to increased regulatory discards. However, regulatory discards of red snapper would be reduced when the season is open due to the higher retention limit. Additionally, if a lower trip limit is maintained, red snapper discards may occur once that trip limit is reached as commercial fishers continue targeting co-occurring snapper-grouper species such as black sea bass, vermilion snapper, and gag.

***Expected effects to co-occurring species, bycatch, and discards***
Increasing the commercial trip limit is not expected to have any effects on co-occurring species, unless commercial fishers opt to stop fishing and return to port sooner because of increased profitability associated with trips harvesting greater amounts of red snapper.

### 4.5.1.2. Economic Effects

**Alternative 1** (No Action) would maintain the current commercial trip limit for red snapper. Therefore, **Alternative 1** would not be expected to change fishing practices or commercial landings of red snapper and would not be expected to result in economic effects.

**Alternatives 2**, **3** and **4** would increase the commercial red snapper trip limit. These increases would typically be expected to shorten the commercial fishing season given that, holding all else equal, the smaller the trip limit, the longer the commercial season is expected to run. However, the modifications to the commercial fishing season resulting from Sub-Action 5b may change this expectation. In terms of season length, **Alternative 1** would result in the longest season, followed by **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4** (Table 4.5.1.1).

The economic effects expected to result from changes in commercial trip limits would generally include changes in ex-vessel revenues and in PS to commercial fishermen, changes in dealers' revenue, and sometimes changes in consumer surplus to consumers purchasing the fish. However, because commercial fishermen are expected to reach and be constrained to the allotted commercial quota under all of the alternatives, given the existing accountability measures (AMs), none of the alternatives considered would be expected to result in these economic effects. Based on the magnitude of the commercial red snapper ACL being considered from **Action 3**, it is estimated that **Action 5a, Preferred Alternative 3** and the other alternatives would all allow the commercial sector to harvest the totality of its allotted ACL. Therefore, changes in aggregate annual ex-vessel revenues would not be expected to result from these alternatives. In general, a less restrictive commercial trip limit may, however, increase economic efficiency on trips, which would lead to an increase in PS. These effects cannot be quantified with existing data, however the benefits would be greatest under **Alternative 4**, followed by **Preferred Alternative 3, Alternative 2, and Alternative 1**. Increases in trip limits may also increase the daily supply of commercial red snapper landings during the open season, ex-vessel prices, and the availability of red snapper for consumers. 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, other snapper and grouper species landings from the South Atlantic region, and imports. Therefore, it is expected that any supply-side effects on ex-vessel prices, dealer revenues, and seafood consumer CS would be minimal from this action.

#### 4.5.1.3. Social Effects

It is generally assumed that an increase in trip limit harvest levels would result in positive social effects for fishermen; however it is not known how fishing behavior might change with an increase in trip limits from 75 lbs gw to 100 lbs gw in **Alternative 2**, 150 lbs gw in **Preferred Alternative 3**, or 200 lbs gw in **Alternative 4**. Positive effects could include an increase in profitability for fishermen by allowing for higher retention and improved profitability of trips. Higher trip limits might also be used by fishermen for bycatch when targeting other snapper-grouper species, which could help to reduce the discards of red snapper by allowing more fish to be retained overall. Conversely, with a larger trip limit negative effects could include more fish entering seafood markets, which could reduce the price fishermen receive for their catch. Also, the commercial sector could experience an earlier closure because the ACL is met faster with a higher trip limit, which can also generate negative effects among participants in the commercial sector. In combination with **Preferred Alternative 3** in Action 3, seasons are projected to be longer than recent commercial seasons based on the status quo commercial ACL.

**Alternative 2** proposes the lowest increase in trip limits and would result in the slowest increase in landings before the ACL is met, while **Alternative 4** proposes the highest trip limit and would likely result in the highest increase in landings before the ACL is met when compared to **Alternative 1 (No Action)**. The length of the commercial season is expected to be the greatest under **Alternative 1 (No Action)** and shortest under **Alternative 4** (Table 2.5.1.1). Given recent commercial landings of red snapper, **Preferred Alternative 3** when combined with the preferred ACL in Action 3 would result in a 95 day predicted season. In 2023 and 2024, the commercial

season was 50 and 30 days, respectively. Under **Alternative 4,** a closure is predicted to occur as early as September 21. Under **Preferred Alternative 3** a closure is predicted to occur as early as October 10, followed by **Alternative 2** with a closure predicted to occur on November 8. Shorter seasons can result in negative social effects among commercial fishermen and fishing communities.

Commercial fishermen operating from the leading red snapper landings communities would likely experience the most extensive social effects of any increase in commercial trip limits for red snapper, especially communities in Florida which accounts for the greatest proportion of commercial landings (>80%). Cocoa and Port Orange, Florida, which together account for 28% of red snapper landings (Section 3.4), would be expected in particular to experience effects. Other top red snapper landings communities that would likely experience social effects include Daytona Beach, Ormond Beach, Atlantic Beach, Titusville, Jacksonville, Cape Canaveral, and Fort Pierce in Florida, and Morehead City in North Carolina.

#### 4.5.1.4. Administrative Effects

Because there is already a trip limit in place, there would be little difference in the administrative impacts of **Alternatives 2** through **4**. The administrative and law enforcement resources currently used to implement and enforce the 75 lbs gw commercial trip limit would be the same as those needed to implement and enforce the increase in trip limits proposed by **Alternatives 2** through **4**. Higher trip limits could have slightly greater administrative effects because they increase the likelihood that the commercial ACL or quota would be met and a commercial closure would occur. However, this type of administrative burden is considered routine, and the overall administrative effects of the alternatives considered under this action would not vary much with respect to each other.

## 4.5.2. Sub-Action 5b. Modify the commercial fishing season for red snapper

### 4.5.2.1. Biological Effects

***Expected effects to red snapper***

The final rule for Amendment 28 to the Snapper-Grouper FMP specified that the commercial fishing season would begin at 12:01 a.m. on the second Monday in July (**Alternative 1 (No Action)**). The Council concluded that a July opening would decrease the chances of inclement weather events; thus, promoting safety at sea and increasing the chance of small vessels participating in the red snapper portion of the snapper-grouper fishery. The Council also requested inclusion of language that gave the NMFS Regional Administrator authority to delay the opening of red snapper fishing seasons in the event of a tropical storm or hurricane.

Beginning in 2026, **Preferred Alternative 2** and **Alternative 3** would move the commercial fishing season start date to May 1 and June 1, respectively. A season beginning in May, June, or July would also allow for better weather during a second opening, if one were to occur. Moving the commercial season to May 1, as specified in **Preferred Alternative 2**, would align with the opening of shallow-water grouper, which are commonly caught with red snapper. The Council has previously acknowledged that allowing commercial harvest of red snapper at the same time shallow-water grouper harvest opens on May 1 (as proposed under **Preferred Alternative 2**) would help reduce discards of red snapper in some areas. Additionally, some commercial fishermen, including some fishermen on the Council's Snapper-Grouper AP, have indicated a preference for a May 1 opening. Some commercial fishermen have also indicated a preference for either an August opening to optimize marketability or retaining the July opening.

The biological benefits of **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 3** would be expected to be similar since harvest would be controlled by ACLs and AMs would be implemented if the ACL was expected to be met or was exceeded. In addition, the red snapper spawning season is from May through October, and all three alternatives would overlap the spawning season.

Under the three projections scenarios for **Alternative 1 (No Action)** and **Preferred Alternative 2** through **Alternative 4**, the commercial fishing season length would range from 36 days to 178 days, if the commercial fishing season starts on May 1 beginning in 2026 (**Preferred Alternative 2**) (Table 4.5.2.1).

**Table 4.5.2.1.** South Atlantic red snapper commercial sector season duration projections using Action 2 Preferred Alternative 2 ABC values and Action 3 ACL alternatives, evaluated using three daily catch rates. Season closure dates assume the commercial season starts on May 1.

| Action 3 Commercial ACL Alternatives | 5 Year Minimum Daily Catch Rate (2019-2023) | | 3 Year Recent Average Daily Catch Rate (2021-2023) | | 5 Year Maximum Daily Catch Rate (2019-2023) | |
|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: Commercial ACL = 124,815 lb ww | 29-Jun | 59 | 15-Jun | 45 | 6-Jun | 36 |
| Alternative 2: Commercial ACL = 300,000 lb ww | 12-Oct | 164 | 3-Sep | 125 | 13-Aug | 104 |
| **Preferred Alternative 3: Commercial ACL = 346,000 lb ww** | **-** | **178** | **24-Sep** | **146** | **30-Aug** | **121** |
| Alternative 4: Commercial ACL = 390,000 lb ww | - | 178 | 14-Oct | 166 | 16-Sep | 138 |

Under the three projection scenarios for **Alternative 1 (No Action)** and **Preferred Alternative 2** through **Alternative 4**, the commercial fishing season length would also range from 36 days to 178 days, if the commercial fishing season starts on June 1 beginning in 2026 (**Alternative 3**) (Table 4.5.2.2). There is only a one month difference between the start date of the commercial fishing season length projections under **Preferred Alternative 2** and **Alternative 3** in Sub-action 5b (Tables 4.5.2.1 and 4.5.2.2).

**Table 4.5.2.2.** South Atlantic red snapper commercial sector season duration projections using Action 2 Preferred Alternative 2 ABC values and Action 3 ACL alternatives, evaluated using three daily catch rates. Season closure dates assume the commercial season starts on June 1.

| Action 3 Commercial ACL Alternatives | 5 Year Minimum Daily Catch Rate (2019-2023) | | 3 Year Recent Average Daily Catch Rate (2021-2023) | | 5 Year Maximum Daily Catch Rate (2019-2023) | |
|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: Commercial ACL = 124,815 lb ww | 30-Jul | 59 | 16-Jul | 45 | 7-Jul | 36 |
| Alternative 2: Commercial ACL = 300,000 lb ww | 12-Nov | 164 | 4-Oct | 125 | 13-Sep | 104 |
| **Preferred Alternative 3: Commercial ACL = 346,000 lb ww** | **-** | **178** | **25-Oct** | **146** | **30-Sep** | **121** |
| Alternative 4: Commercial ACL = 390,000 lb ww | - | 178 | 14-Nov | 166 | 17-Oct | 138 |

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

Moving the commercial season to May 1, as specified in **Preferred Alternative 2**, would align with the opening of shallow-water grouper, which are commonly caught with red snapper. **Preferred Alternative 2** could result in reduced discards of red snapper when targeting shallow-water grouper when the season opens. Additionally, higher trip limits would increase trip profitability and could reduce trip lengths or targeting of other snapper-grouper species while the red snapper season is open. The actions in Amendment 59 are not expected to result in substantial changes to fishing activity or behavior in the snapper grouper commercial sector and thus no substantial change in bycatch of co-occurring species is expected as a result of Sub-action 5b.

## 4.5.2.2. Economic Effects

NMFS does not possess the data to directly determine whether any precise differences in economic benefits are expected from when the season starts on any of these three alternative dates. **Preferred Alternative 2** would modify the start of the commercial fishing season to May 1 beginning in 2026. May 1st aligns with opening of the commercial shallow-water grouper season, which could lead to an increase in PS on trips that target shallow-water grouper early in the season due to increased economic trip efficiency from landing more red snapper and shallow-water grouper jointly. **Preferred Alternative 2** may also aid in reducing dead discards of red snapper in some areas during the shallow-water grouper season, resulting in faster rebuilding, higher future catch rates, and higher indirect economic benefits. **Preferred Alternative 2** may also aid in the rebuilding of red snapper by allowing commercial harvest of red snapper prior to their peak spawning season of July and August.

### 4.5.2.3. Social Effects

Starting the commercial season in a different month could affect the marketability of red snapper and the ability to fish during what might be fishermen's preferred time to target the species as part of their business model. However, starting the season earlier could also function to ensure safety at sea, with more fishing days potentially occurring in better weather. Moreover, future fishing opportunities for red snapper could potentially be enhanced through reduced pressure on the resource if the season is opened in tandem with the open seasons for shallow-water snapper-grouper species.

The South Atlantic Council selected the July season opener for commercial red snapper in **Alternative 1 (No Action**) because it would decrease the chance of fishing during bad weather events and increase the ability of small vessels to safely participate in commercial red snapper fishing. The earlier the commercial season starts (beginning on May 1 under **Preferred Alternative 2** and June 1 under **Alternative 3**), the greater the expected likelihood would be for fishing trips to occur in good weather, particularly if the season is open for a longer time period before the peak of hurricane season. This scenario could result from an increase in the commercial ACL, which has been proposed elsewhere in the Amendment. Of note, relatively fewer named storms and hurricanes have historically occurred during June and July than during August, September, and October in the Atlantic basin, with accordingly more fishing opportunities and enhanced safety at sea during the late spring and early summer months.

Some fishermen would like to see the opening of the season in July as specified under **Alternative 1 (No Action)**, or would like an August opening to optimize marketability, which is not an option for this action. Some members of the Council's Snapper-Grouper AP have also recommended a May 1 opening (October 2024 Snapper Grouper AP Meeting). These months could be important for the harvest of red snapper to commercial fishermen as part of their business model. **Preferred Alternative 2** includes a May 1 opening and the months of July and August, and even the months that follow, could be open under **Preferred Alternative 2** and **Alternative 3**, if the ACL is large enough under the proposed commercial red snapper ACL action included elsewhere in Amendment 59.

Under **Preferred Alternative 2**, the opening of the shallow-water grouper season would align with the opening of the season for red snapper and could contribute to a decrease in discards for the commercial sector because these species are commonly caught together. This could lead to long-term positive social effects and contribute to future fishing opportunities. However, the bulk of the discards for red snapper are reportedly associated with the recreational sector. As such, these gains could be relatively minor in comparison to gains from reducing discards in the recreational sector.

Among the action alternatives, **Preferred Alternative 2** could generate the greatest social benefits when combined with an increased ACL for commercial red snapper because of the opportunity for more days of fishing in good weather and a season that aligns with the shallow-water grouper season, followed by **Alternative 3**. However, some fishermen operate under individual business models that depend on red snapper harvest during particular months, including the mid- and late summer months, and therefore prefer the current start of the season

specified in **Alternative 1 (No Action)**. The communities that could benefit from or be negatively impacted to the greatest degree under this alternative are those with the leading levels of production in the commercial red snapper fishery (Section 3.4).

#### 4.5.2.4. Administrative Effects

There would be no difference in the administrative effects of **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 3**. The action alternatives would simply change the start date for the commercial fishing season. Under all three alternatives, NMFS would monitor the landings and then close the commercial fishing season when the commercial ACL for red snapper is expected to be met.

## 4.6 Action 6. Modify recreational fishing season for red snapper to further increase fishing opportunities/optimize yield

### 4.6.1. Biological Effects

***Expected effects to red snapper***

The current recreational season for red snapper specified under **Action 1 (No Action)** consists of weekends only (Fridays, Saturdays, and Sundays) and begins on the second Friday in July, unless otherwise specified. The current three-day season was specified through the final rule for Amendment 28 to the Snapper-Grouper FMP. The Council concluded that a July opening would decrease the chances of inclement weather events; thus, promoting safety at sea and increasing the chance of small vessels being able to fish for red snapper. The Council also requested inclusion of language that gives the NMFS Regional Administrator authority to delay the opening of red snapper fishing seasons in the event of a tropical storm or hurricane.

**Alternative 2**, **Preferred Alternatives 3**, and **4** would change the start of the recreational fishing season for red snapper. **Alternative 2** would specify a three-day weekend fishing season for red snapper beginning on the second Friday in June 2026. Under **Preferred Alternative 3**, the fishing season for red snapper would consist of Saturdays and Sundays beginning on the second Saturday in June 2026. **Preferred Alternative 4** would modify the recreational fishing season for red snapper to be Saturday and Sunday, beginning on the second Saturday in July 2025.

A change in the days of the week that would be open for red snapper harvest under **Preferred Alternatives 3** and **4** as well as the change in the month that recreational harvest of red snapper would open under **Alternative 2** and **Preferred Alternative 3** is being considered to potentially increase access for fishermen to the recreational fishing season by considering when people are available to fish and when adverse weather conditions are likely to occur. **Preferred Alternatives 3** and **4** would remove Friday from the three-day weekend. Since many people work on Friday, removing this day could increase access of red snapper to those not working on weekends. Moving the starting month of the red snapper fishing season to June under **Alternative 2** and **Preferred Alternative 3** could reduce the probability that the recreational fishing season would be impacted by adverse weather such as hurricanes since the hurricane season is June 1 through November 30, and storms become more frequent in late-summer and fall. The peak of hurricane season is early September. Changing the weekend structure under **Preferred Alternatives 3 and 4** would extend the recreational fishing season to more weekends of fishing and potentially provide more or better fishing opportunities that are not impacted by bad weather.

The biological effects of **Alternatives 1 (No Action)** through **Preferred Alternative 4** are expected to be similar since the ACL would be the same under all alternatives. Regardless of the alternative selected, the length of the red snapper season would be projected by NMFS based on prior year landings, catch rates, and/or comparison of projected vs. actual indices of abundance. In addition, the spawning season for red snapper extends from May to October; thus, the biological effects of the start dates specified in the alternatives would be similar.

***Expected effects to co-occurring species, bycatch, and discards***
Moving the recreational season start date to earlier in the summer would potentially reduce discards of co-occurring species whose seasons overlap with red snapper (e.g., gag). This could result in a lesser amount of discards of both red snapper and the co-occurring snapper-grouper species.

The change in the season structure is not expected to dramatically change the number of fishing trips targeting or harvesting red snapper when the season is open. Therefore, any changes to the season structure are not likely to change bycatch or discards of co-occurring species. Action 4 would reduce discarding and harvest of co-occurring species in specific areas or during specific time periods, and therefore is expected to provide the greater benefits to co-occurring species relative to other actions in this amendment. However, the actions in Amendment 59 in combination are expected to result in a reduction in discards of red snapper and potentially other co-occurring species; thus no substantial change in bycatch of co-occurring species is expected as a result of Action 6.

### 4.6.2. Economic Effects

Estimating the differences in net economic benefits depending on whether the season starts on any of these three alternative dates is not possible. Information, such as whether CS values vary on a seasonal basis, is not available for use in estimating the differences in net economic benefits in the **Alternatives** of **Action 6**. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the net economic benefits may differ between the alternatives. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4, when the season is open, relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season in July or August (**Preferred Alternatives 4**) would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort. Additional for-hire trips would generate additional PS. However, individual for-hire businesses may have different preferences for start dates, so it is possible that economic benefits to the recreational sector could be greater if the season were opened earlier in the year such as would be under **Preferred Alternative 3** and **Alternative 2.**

### 4.6.3 Social Effects

Modifying the recreational season could change the level of access and extent of fishing opportunities for red snapper. When compared to **Alternative 1 (No Action),** the social effects potentially resulting from **Alternative 2**, **Preferred Alternative 3**, and **Preferred Alternative 4** would depend on the specific days each weekend that the season is open, the possibility of these days being impacted by bad weather, and the times when recreational effort for red snapper typically is the greatest.

**Alternative 1 (No Action)** specifies that recreational season would consist of weekends (Fridays, Saturdays, and Sundays) beginning on the second Friday in July; whereas **Alternative 2** would modify the season to include Fridays, Saturdays, and Sundays beginning on the second Friday in June of 2026. **Preferred Alternative 3** would modify the recreational season to include Saturdays and Sundays only and begin on the second Saturday in June of 2026, and **Preferred Alternative 4** would modify the recreational season to include Saturdays and Sundays only and begin on the second Saturday in July starting in 2025.

Among the action alternatives, **Alternative 2** includes the greatest number of days per weekend, with a three-day weekend season including Fridays, Saturdays, and Sundays; whereas **Preferred Alternatives 3** and **4** allow for a two-day weekend season including Saturday and Sunday. Because a large proportion of the population works on Fridays, if Friday is not included as an open day, access would increase to more people through the extension of the season throughout more weekends consisting of Saturdays and Sundays. In addition, including two days in a weekend, rather than three could reduce the numbers of days impacted by bad weather by allowing the season to extend over more weekends.

In addition, to possibly alleviate concerns about bad weather, a change to 50 C.F.R. § 622.183(b)(5)(ii) is proposed in **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4**. This change would allow the NMFS Southeast Regional Office Regional Administrator (RA) to modify the opening and closing dates of the recreational season or reopen the recreational fishing season at a later date, including off a specific South Atlantic state, 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 modify or delay 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 **Alternatives 2** through **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 season date modifications. 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. However, these possible negative impacts could be reduced by the proposed change which could include a date change off of only the specific South Atlantic state with a small craft advisory.

As mentioned in Section 4.6.2, participation in the red snapper portion of the recreational snapper grouper fishery (as gauged by catch, catch effort, and target effort) is greater during wave 4 (July and August), than during wave 3 (June), with target effort highest in wave 4, relative to other waves. These waves also correspond to the start of the summer, when children are off from school and more people take time off work for vacation. When past participation and busy fishing times of the year are considered along with days of the weekend that provide

the greatest and most extended access to recreational red snapper fishing, **Preferred Alternative 3** and **Preferred Alternative 4** could provide fishing opportunities to the greatest number of participants, followed by **Alternative 2**. Social benefits are expected throughout communities engaged in the recreational harvest of red snapper (Section 3.4); however, benefits for individual communities would vary based on when participation in the fishery is most extensive in that community.

### 4.6.4 Administrative Effects

Administrative burden would be higher under **Preferred Alternative 4**, **Alternative 3**, and **Alternative 2** compared with **Alternatives 1 (No Action**. Under all four alternatives, NMFS would project when the recreational ACL for red snapper is expected to be met. A temporary rule and a fishery bulletin would be issued to announce the opening and closing dates of the recreational fishing season.

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 or reopen the recreational fishing season at a later date, including off a specific South Atlantic state, 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.

**Preferred Alternative 4** would also increase administrative burden on law enforcement, as limited at-sea resources would have to be used to ensure weather closures are being followed, and this could possibly be diverting other at-sea resources if there are varying closures among different states.

## 4.7 Action 7. Establish an Annual Experimental Studies Program

### 4.7.1. Biological Effects

***Expected effects to red snapper, co-occurring species, bycatch, and discards***
Currently, any experimental studies are evaluated on an ad-hoc basis, including consistency with the Magnuson-Stevens Act and other applicable law [**Alternative 1 (No Action)**]. This process includes applications for an exempted fishing permit (EFP). The Florida Fish and Wildlife Conservation Commission has been issued several EFPs to currently explore innovative methods to reduce red snapper discards through several projects. These projects are limited in scope and duration, and would not have substantial direct effects on the biological environment.

**Alternative 2** and **Preferred Alternative 3** would establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. Project proposals would be evaluated based on a fixed schedule to be developed by NMFS. **Alternative 2** would allow approved projects to authorize a total or combined amount of red snapper not to exceed the amount of the difference between the ABC and total ACL chosen in Actions 2 and 3. **Preferred Alternative 3** would limit the total allowable amount of red snapper not to exceed 10,000 fish or the amount of the difference between the ABC and total ACL chosen in Actions 2 and 3, whichever is less.

All of the alternatives in this action are limited in scope and are not expected to substantially impact the red snapper stock or co-occurring snapper-grouper species. Potential projects would explore innovative ways of reducing dead discards. Since all three alternatives allow for additional fish to be harvested during experimental studies, they would likely increase fishing mortality slightly but this increase may be partially or largely offset by reductions in red snapper discards due to the innovative management strategy being tested. **Alternatives 1** and **Preferred Alternative 3** would allow approximately 2-3% more fish to be landed than the total ACL proposed in Action 3, while **Alternative 2** would allow up to 11% more than the lowest total ACL that could be selected in Action 3.

### 4.7.2 Economic Effects

NMFS does not possess the data necessary to estimate the overall direct changes to net economic benefits from an Annual Experimental Studies Program. However, some indirect changes to net economic benefits can be expected from **Alternatives 2** and **3**. An annual experimental studies program has the potential to generate substantial economic benefits for the commercial and recreational sectors that participate in the snapper grouper fishery. By testing new management strategies on an experimental basis, an annual experimental studies program will generate valuable data and institutional knowledge that expands the range of viable management approaches. This, in turn, should be expected to improve net economic benefits for both the recreational and commercial sectors in the long run.

The amount of red snapper set aside for an Annual Experimental Studies Program will be taken from the buffer between the ABC and the ACL, as opposed to the ACL itself. Therefore, none of the **Alternatives** in **Action 7** will change the amount of red snapper available for harvest by either sector because neither sector's ACL will be modified from the status quo. As such, the greater the amount of red snapper set aside for an Annual Experimental Studies Program the greater the direct economic benefits from harvest will be realized as research participants will get to land those fish and gain the corresponding CS or PS, depending on the sector. Possible negative economic effects are that the buffer intended for scientific uncertainty would be effectively reduced, increasing the risk of overfishing and triggering of AMs. This could potentially negatively impact future harvest levels due to the need for more restrictive management measures.

To estimate the possible changes to net benefits from **Preferred Alternative 3**, and assuming the program is used solely for the recreational sector (although it can also be used for the commercial sector)**,** a CS estimate of $100.98 for the second red snapper kept on a recreational trip (2023$; Section 3.3.2) is multiplied by set aside amounts as specified by **Preferred Alternative 3** and the ACLs specified in **Action 3**. This CS estimate is closest to the current retention limit of one fish per person when the recreational season is open. Table 4.7.2.1 shows the estimated increase in CS from an overall increase in harvest of red snapper as specified by **Preferred Alternative 3** for an Annual Experimental Studies Program under each **Action 3** alternative.

**Table 4.7.2.1.** Estimated increase in CS from Action 7, Preferred Alternative 3 (Allotment = $ABC_{\#fish}$ – ACL $_{\#fish}$ or Allotment = 9,000 fish, whichever is greater) (2023 $).

| Action 3 Alternative | ABC=509,000 fish |
|---|---|
| Alt 2 (ACL=505,000) | $403,920 |
| **Preferred Alt 3 (ACL=500,000)** | **$908,820** |
| Alt 4 (ACL=496,000) | $908,820 |

## 4.7.3 Social Effects

Establishing an Annual Experimental Studies Program for red snapper could provide information through the approved studies that can lead to better management and future fishing opportunities for commercial and recreational red snapper fishing through the transitioning of dead discards into landed catch. However, reducing or eliminating the buffer between the ABC and ACL for red snapper in order to provide fish for use in these experimental studies could increase the likelihood of negative impacts to the stock if management measures do not perform as well as expected.

**Alternative 1 (No Action)** does not establish an Annual Experimental Studies Program for the South Atlantic red snapper fishery; whereas **Alternative 2** and **Preferred Alternative 3** would establish an Annual Experimental Studies Program which would allow a certain amount of red snapper in addition to the ACL to be used in the program for projects that are intended to reduce red snapper discards and increase fishing opportunities. The amount available is based on the

size of the buffer between the ABC and the ACL for red snapper and depends on the ACL selected in Action 3 of Amendment 59. Under **Alternative 2**, the amount of red snapper available for the program would be up to 55,000 fish (Table 2.7.1.1) and the amount available for the program under **Preferred Alternative 3** would be up to 10,000 fish depending on the ABC selected in Action 2 and ACL selected in Action 3.

Allowing the harvest of red snapper for experimental studies does not guarantee that the information gathered will result in benefits to the fishery; however it does allow for the exploration of methods to reduce red snapper discards which could result in long-term benefits including future fishing opportunities. Buffers are an established method used to constrain landings and prevent overfishing. Commercial landings have exceeded the ACL in several recent years: 2018, 2019, 2021, and 2023 by small amounts (1-8%; Table 3.2.1.1), and recreational landings have exceeded the ACL since 2018 (Section 3.2.1). **Preferred Alternative 3** would limit landings to no more than 10,000 fish under the annual experimental studies program. Based on the preferred alternatives in Action 2 and 3, the annual experimental studies program would have a maximum limit of 9,000 fish. Additionally, there is a buffer between the OFL and ABC. The sum of landings from the annual experimental studies program and the preferred ACL selected in Action 3 would equal the ABC. The buffer between the ABC and OFL would be maintained, thereby reducing the likelihood that the OFL is exceeded in the event that commercial and/or recreational overages occur. The nature and extent of social effects would depend on whether the studies included in the established experimental program would result in better management and/or information that leads to an increased availability of catch of red snapper for fishermen, and whether a reduced buffer results in negative impacts to the red snapper stock because the ABC and/or OFL is exceeded. Communities where residents and visitors are most extensively engaged in red snapper fishing (Section 3.4) would be expected to benefit or be negatively impacted to the greatest degrees by this action.

### 4.7.4 Administrative Effects

**Alternatives 2** and **Preferred Alternative 3** would create a greater administrative burden than **Alternative 1 (No Action)** to set up the program, but could streamline review of proposals by enabling programmatic evaluation and consideration on a set schedule.

## 4.8 Action 8. Modify the fishing year for red snapper

### 4.8.1. Biological Effects

***Expected effects to red snapper, co-occurring species, bycatch, and discards***

Biological benefits across all three alternatives are expected to be comparable, since the change to the fishing year is administrative in nature. **Preferred Alternative 2** and **Alternative 3** would better align the start of the red snapper fishing year with the opening of seasons for species that co-occur with red snapper, including shallow-water grouper species such as gag, black grouper, red grouper, scamp, red hind, rock hind, yellowmouth grouper, yellowfin grouper, graysby, and coney. Several deepwater species, such as golden tilefish and snowy grouper also open recreationally May 1, and the start of their seasons would align with the new preferred fishing year. Benefits include consistency in when red snapper catches are accounted for and alignment of the red snapper fishing year with season openings for many other co-occurring snapper-grouper species.

### 4.8.2 Economic Effects

**Alternative 1 No Action** would retain the South Atlantic red snapper fishing year as January 1 through December 31. **Preferred Alternative 2** would modify the South Atlantic red snapper fishing year to be May 1 through April 30. **Alternative 3** would modify the South Atlantic red snapper fishing year to be June 1 through May 31. **Preferred Alternative 2's** start date would match the earliest proposed start date of the commercial fishing season of May 1 for red snapper (Sub-Action 5b) and would precede the earliest proposed start dates of the recreational fishing season of the second Friday or Saturday in June (Action 6). Assuming that future landings would be similar to recent landings, **Preferred Alternative 2** would be expected to provide the greatest economic benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**.

### 4.8.3 Social Effects

Annual catches are monitored based on the fishing year. Currently, the fishing year for red snapper is the calendar year January 1 – December 31. Starting the fishing season on January 1 means that catches begin to be counted toward catch limits beginning from January 1. Red snapper fishing is closed for each sector when their respective ACLs are estimated to be reached with an in-season closure, and further retention of red snapper is prohibited for the duration of the fishing year unless it is determined that there can be a second season because of available landings. In-season closures are disruptive to fishermen, and if there were multiple simultaneous in-season closures of desirable species, these effects would be compounded. Additional effects would not be expected from retaining the current fishing year of January 1 – December 31 (**Alternative 1 (No Action)**). However, if an in-season closure occurs, it could overlap with any other in-season closures of snapper grouper species, potentially compounding the negative effects, although this could also occur under **Preferred Alternative 2** and **Alternative 3**.

Modifying the fishing year to May 1 – April 30 (**Preferred Alternative 2**) or June 1 – May 31 (**Alternative 3**) would mean that catches would begin to be counted against the ACL from the respective start date of the fishing year. The beginning of the fishing year under **Preferred Alternative 2** would more closely match the earliest proposed start date of the commercial fishing season of May 1 for red snapper (Sub-Action 5b) and would precede the earliest proposed start dates of the recreational fishing season of the second Friday or Saturday in June (Action 6). The beginning of the fishing year under **Alternative 3** of June 1 would fall after the earliest start dates for the commercial fishing season of May 1 (Sub-Action 5), but would more closely match the earliest proposed start dates for the recreational fishing season, which include the second Friday or Saturday in June (Action 6).

The greatest proportions of commercial landings of red snapper in federal waters have occurred during recent years in the months of July and August; however, the commercial season has also started in July in recent years. Wave 4 (July and August) has included the highest catch, catch effort, and target effort for the recreational sector relative to other waves; however, the recreational season has also started in July in recent years.

Assuming that future catch rates would be similar to recent landings, and considering the proposed start dates of the commercial and recreational seasons (Sub-Action 5b and Action 6); of the action alternatives, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers; followed by **Alternative 3**. The greatest benefits would be expected for Florida fishermen and associated communities, where catches are the greatest (Section 3.4).

### 4.8.4 Administrative Effects

No substantial administrative effects are expected from modifying the current fishing year for red snapper between **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 3**. Administrative burdens would include monitoring the catches starting in a different month, informing the public of the change, and any associated enforcement stemming from the new regulations.

# Chapter 5. Cumulative Effects

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (RFFA) regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. § 1508.1(i)(3)).

This section uses an approach for assessing cumulative effects that follows guidance in the Council on Environmental Quality's (CEQ) Considering Cumulative Effects handbook (CEQ 1997). The report outlines 11 items for consideration in drafting a CEA for a proposed action:

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.
2. Establish the geographic scope of the analysis.
3. Establish the timeframe for the analysis.
4. Identify the other actions affecting the resources, ecosystems, and human communities of concern.
5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.
6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.
7. Define a baseline condition for the resources, ecosystems, and human communities.
8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.
9. Determine the magnitude and significance of cumulative effects.
10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.
11. Monitor the cumulative effects of the selected alternative and adapt management.

Cumulative effects on the biophysical environment, socio-economic environment, and administrative environments are analyzed below.

**1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals**.

The CEQ cumulative effects guidance states this step is accomplished through three activities as follows:

I. The direct and indirect effects of the proposed actions (Chapter 4);
II. Which resources, ecosystems, and human communities are affected (Chapter 3); and
III. Which effects are important from a cumulative effects perspective (information revealed in this CEA).

**2. Establish the geographic scope of the analysis.**

*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 Volume II of the Fishery Ecosystem Plan (FEP; SAFMC 2009b). For the proposed actions found in Amendment 59 to the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP), the cumulative effects analysis includes an analysis of data from 2021 through the present. Additional specifics about the geographic scope and description of the areas are included in Chapter 3.

**3. Establish the timeframe for the analysis.**

It would be advantageous to go back to a time when there was a natural, or some modified (but ecologically sustainable) condition. However, data collection for many fisheries began when species were already fully exploited. Therefore, the timeframe for any analysis should be initiated when data collection began for the subject fishery. In determining how far into the future to analyze cumulative effects, the length of the effects would depend on the species. The timeframe for this analysis is 1983 to 2028. The year 2028 was selected as an end date for the analysis as new scientific information and a SEDAR stock assessment is expected in 2028, and it will allow the South Atlantic Fishery Management Council to make updates to management measures based on this new scientific advice in 2028 or possibly sooner. Additionally, the catch levels proposed herein are based on projected yields for 2025-2027 from an updated stock assessment. Red snapper have been managed in the South Atlantic since the implementation of the Snapper-Grouper FMP in 1983.

**4. Identify other actions affecting the resources, ecosystems, and human communities of concern.**

*i. Past Actions:*
The reader is referred to Appendix D for past regulatory activity related to red snapper management in the South Atlantic. For additional information about the management of the snapper grouper fishery in the South Atlantic, please refer to the South Atlantic Fishery Management Council website (www.safmc.net) for a list of amendments to the FMP.

*ii. Present Actions:*
The purpose of this amendment is to end and prevent overfishing of red snapper. The SEDAR 73 (2021) stock assessment and the SEDAR 73 Update Assessment (2024) indicated that red snapper is undergoing overfishing as of 2019. Red snapper fishing mortality is primarily due to dead discards in the recreational sector. Dead discards have resulted from targeting co-occuring snapper-grouper species, and are not limited to the red snapper season (Shertzer et al., 2024).

Thus, in order to end and prevent overfishing and increase landed catch levels, additional management measures (e.g., area or time closures, modifications to seasons and trip limits, reevaluation of status determination criteria) need to be considered beyond specifying red snapper catch limits, and could impact the snapper-grouper fishery in the south Atlantic EEZ, which includes 55 species including red snapper. Consistency with the Magnuson-Stevens Act and the Snapper Grouper FMP requires, among other things, preventing overfishing, rebuilding fish stocks, monitoring the fishery, conserving fish habitats, and minimizing conflicts between user groups.

The Comprehensive Commercial Electronic Logbook Amendment that would modify the FMPs for South Atlantic Snapper Grouper, Atlantic Dolphin Wahoo, Atlantic and Gulf Coastal migratory Pelagics, and Gulf Reef Fish would require commercial logbooks to be submitted via electronic reporting forms instead of the currently used paper-based forms. This amendment has been submitted for implementation by the South Atlantic and Gulf of Mexico Fishery Management Councils and is under review by the NMFS.

*iii. Reasonably Foreseeable Future Actions (RFFAs):*
Amendment 46 to the Snapper Grouper FMP is currently under development and proposes actions to focus on private recreational permit requirements and reporting which would relate to red snapper.

Amendment 48 to the Snapper Grouper FMP proposes actions to modernize the wreckfish individual transferable quota program and modify management measures. Actions would establish an electronic reporting system, trip and landing notification, cost recovery, revise sector allocations, commercial vessel permit requirements, the fishing year, participation and eligibility requirements for the individual transferable quota program, and monitoring requirements including pre-landing notification and landing site and offloading time requirements.

Amendment 55 to the Snapper Grouper FMP proposes actions to reorganize the Other South Atlantic Shallow Water Grouper complex, establish a new Scamp and Yellowmouth Grouper complex including stock determination criteria, a rebuilding timeframe, catch levels, sector allocations, management measures, and accountability measures. In addition, it proposes to modify the catch levels for the remaining species within the Other South Atlantic Shallow Water Grouper complex.

Regulatory Amendment 36 to the Snapper Grouper FMP proposes actions to revise recreational vessel limits for gag and black grouper and stowage requirements for on-demand black sea bass pots while transiting marine protected areas and spawning special management zones.

Amendment 56 to the Snapper Grouper FMP is currently under development and responds to the latest black sea bass stock assessment. This action would establish a rebuilding plan, revise catch levels, consider revision of sector allocations, and other black sea bass management measures.

The Southeast For-Hire Integrated Electronic Reporting (SEFHIER) Improvement Amendment, which includes Amendment 58 to the Snapper Grouper FMP, is currently under development and

would improve the SEFHEIR program to better collect data from the for-hire sector for the snapper grouper, dolphin wahoo and coastal migratory pelagic fisheries.

*iv. 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 snapper grouper fisheries is not fully understood at this time. The Environmental Protection Agency's climate change webpage (https://www.epa.gov/climate-indicators/marine-species-distribution), and NOAA's Office of Science and Technology climate webpage {https://www.fisheries.noaa.gov/topic/climate), provides background information on climate change, including indicators which measure or anticipate effects on oceans, weather and climate, ecosystems, health and society, and greenhouse gasses. The United Nations Intergovernmental Panel on Climate Change's Sixth Assessment Report (February 28, 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 snapper grouper species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur.

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 amendment would compound or exacerbate the ongoing effects of climate change on snapper grouper species.

*Weather Variables*

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

Additionally, tropical storms and hurricanes can disrupt fishing activity, negatively affect short fishing seasons, and result in unsafe fishing conditions.

**5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.**

This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components. According to the CEQ guidance describing stress factors, there are two types of information needed. The first are the socioeconomic driving variables identifying the types, distribution, and intensity of key social and economic activities within the region. The second are the indicators of stress on specific resources, ecosystems, and communities.

a. Socioeconomic driving variables identifying the types, distribution, and intensity of key social and economic activities within the region

The socioeconomic driving variables identifying the types, distribution, and intensity of key economic and social activities within the region are described in detail in Section 3.4.

b. Indicators or stress specific resources, ecosystems, and communities

*i. Resources*

Trends in landings and the status of the red snapper stock are based on NMFS and SEDAR stock assessments (summarized in Section 3.2) and are incorporated here by reference. The SEDAR 73 (2021) stock assessment of South Atlantic red snapper determined that overfishing was occurring as of 2019, but it indicated that the red snapper stock has shown above average recruitment in recent years and substantial progress toward rebuilding. Similar to SEDAR 41 (2017), SEDAR 73 (2021) also indicated that the primary source of mortality is recreational dead discards. An update of the SEDAR 73 (2021) assessment was completed by NMFS in December 2024 (SEDAR 73 Update Assessment [2024]) indicating the stock is still experiencing overfishing based on the current overfishing definition ($F_{30\%SPR}$), but is no longer overfished, and continues to rebuild (https://sedarweb.org/assessments/sedar-73/).

*ii. Ecosystem*

With respect to stresses to the ecosystem, actions in this amendment are not likely to create additional stress. Vertical-line gear, the primary gear used by the reef fish fishery, and longlines can damage habitat through snagging or entanglement; however, these impacts are minimal. Changes in the population size structure as a result of shifting red snapper fishing selectivities and increases in stock abundance could lead to changes in the abundance of other reef fish species that compete with red snapper habitat and diet. Predators of red snapper could increase if red snapper abundance is increased, while species competing for similar resources as red snapper could potentially decrease in abundance if food and/or shelter are less available.

*iii. Snapper Grouper Fishing Communities*

Fisheries are subject to stress as a result of increases in fishing costs, increases in harvesting efficiency, more restrictive regulations, and changes in the stock status of certain species (effort shifting). Reductions in dollars generated would likely be felt in the fishery infrastructure (e.g., marinas, bait and tackle shops). For the snapper-grouper fishery, an indicator of stress would be a decline in the number of permitted vessels or a decrease in landings. The actions in this amendment are expected to end and prevent overfishing while also increasing fishing opportunities for red snapper. This is expected to improve the outcome to snapper grouper fishing communities, although some communities may be disproportionately affected by discard reduction areas or time periods. This is analyzed in Chapter 4.

*iv. Administrative Environment*

The stresses to the administrative environment from these actions would include those from all FMPs, such as: developing and implementing an FMP, outreach and education, and enforcement of fishery management measures.

**6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.**

This section examines whether resources, ecosystems, and human communities are approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold (CEQ 1997). Sustainability thresholds can be identified for some resources, which are levels of impact beyond which the resources cannot be

sustained in a stable state. Other thresholds are established through numerical standards, qualitative standards, or management goals. The CEA should address whether thresholds could be exceeded because of the contribution of the proposed actions to other cumulative activities affecting resources.

*i. Ecosystem*

The stresses associated with the proposed actions in relation to regulatory thresholds are not likely to cause adverse effects on the ecosystem. Actions in the amendment would directly affect the snapper-grouper fishery thus, significant effects on the ecosystem are not expected. Snapper-grouper fishing effort would remain constrained by actions that keep quotas and ACLs from being exceeded. Area closures could benefit bottom habitat by reducing interactions with fishing gear.

*ii. Snapper Grouper/ Red Snapper Stock*

The purpose of this amendment is to end and prevent overfishing of red snapper. SEDAR 73, (2021) indicated that red snapper is overfished and undergoing overfishing as of 2019. Red snapper mortality is primarily from dead discards in the recreational sector. SEDAR 73 Update Assessment (2024) indicates the stock is still experiencing overfishing based on the $F_{30\%SPR}$ benchmark, but is no longer overfished, and continues to rebuild (https://sedarweb.org/assessments/sedar-73/). Dead discards of red snapper have resulted from targeting snapper-grouper species overall, and are not limited to the red snapper season (Shertzer et al., 2024). Thus, in order to end overfishing, additional management measures (e.g., area closures and gear restrictions) need to be considered beyond specifying red snapper catch limits, and could impact the reef fish fishery in the South Atlantic EEZ. Consistency with the Magnuson-Stevens Act and the Snapper Grouper FMP requires, among other things, preventing overfishing, rebuilding fish stocks, monitoring the fishery, conserving fish habitats, and minimizing conflicts between user groups. The actions proposed by this amendment would meet these requirements.

*iii. Snapper Grouper Fishing Communities*

For specific information regarding the effects of actions in this amendment on the economic and social environment of fishing communities see Chapter 4. Fishing communities are subject to stress as a result of increases in fishing costs, increases in harvesting efficiency, more restrictive regulations, and changes in the stock status of certain species (effort shifting). Reductions in dollars generated would likely be felt in the fishery infrastructure. The purposes of the actions in this amendment are to end overfishing of red snapper through a reduction in dead discards. By reducing dead discards of red snapper, the fishing opportunities could increase, providing a benefit to the snapper grouper fishing communities.

*iv. Administrative Environment*

Thresholds would likely not be exceeded from the combined effects modifying catch limits and management measures to red snapper as these are actions fall within the confines of the Magnuson-Stevens Act and buffers are included to address uncertainty. For specific information regarding the effects of actions in this amendment on the administrative environment, see Chapter 4. The effects on the administrative environment for the federal government are expected to be generally positive, because they are less likely to result in exceeding thresholds,

although there could be some increases in administrative burden due to the experimental studies program and enforcement of discard reduction areas/time periods. Federal and state entities already monitor and enforce the harvest of snapper-grouper species, therefore this action is not expected to significantly increase the existing burden.

**7. Define a baseline condition for the resources, ecosystems, and human communities.**
The purpose of defining a baseline condition for the resource and ecosystems in the area of the proposed actions is to establish a point of reference for evaluating the extent and significance of expected cumulative effects.

*i. Ecosystem*
As summarized in Section 3.1, information on the habitat utilized by species in the snapper-grouper fishery management unit (Snapper-Grouper FMU) and managed through the Fishery Management Plan (FMP) for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP) is included in Volume II of the Fishery Ecosystem Plan (FEP; SAFMC 2009b) which are incorporated here by reference. A baseline for analysis of the physical environment is discussed in Section 3.2.

*ii. Snapper Grouper/ Red Snapper Stock*
The biological environment of the South Atlantic, including that of red snapper, is described in Section 3.1 and Section 3.2 of this amendment.

*iii. Snapper Grouper Fishing Communities*
See Sections 3.4 and 3.5 for a description of the snapper grouper fishing communities, including the social and economic descriptions.

*iv. Administrative Environment*
Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.). The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the exclusive economic zone, an area extending 200 nautical miles 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 EEZ. State waters refer to the area from shore out to the seaward boundary of each state. Responsibility for federal fishery management is shared by the Secretary of Commerce and South Atlantic Fishery Management Council (see Section 3.5).

Recreational red snapper landings are obtained through multiple sources (see Chapters 2 and 3). The Southeast Region Headboat Survey covers headboats in the Gulf and South Atlantic. The MRIP provides private angling and charter vessel landings and effort data for recreational effort. The state of Florida also has a specialized survey for collecting red snapper recreational landings. More details on the administrative environment can be found in Section 3.6.

**8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.**
Cause and effect relationships are presented in the table 5.1.

**Table 5.1**. Cause and effect relationships between human activities, resources, ecosystems and human communities.

| Time period | Cause | Observed and/or expected effects |
|---|---|---|
| 1983 | Development of the Snapper-Grouper FMP. | Expected to improve management by preventing overfishing in thirteen species, establishing a procedure for preventing overfishing in other species; established minimum size limits for red snapper, and included additional harvest limitations. |
| 1991 | Amendment 4 to the Snapper Grouper FMP prohibited the use of various gear types, 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 EEZ must have heads and fins intact through landing | Expected to improve management of snapper grouper species. |
| 1998 | Amendment 11 identified and defined fishing communities, addressed bycatch management measures, and defined the red snapper $F_{MSY}$ proxy as $F_{30\%SPR.}$ | Expected to improve management of snapper grouper species. |
| 2010 | Amendment 17A specified a 35-year rebuilding schedule with the rebuilding time period ending in 2044, and | Expected to end overfishing of red snapper and rebuild the stock. |

| Time period | Cause | Observed and/or expected effects |
|---|---|---|
| | included a harvest prohibition for red snapper by setting an ACL of zero, and an area closure for all snapper-grouper species. 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 EEZ north of 28 degrees North latitude and specified a fishery-independent monitoring program for red snapper. | |
| 2011 | Amendment 25 (Comprehensive ACL Amendment) established sector allocations for 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%. | Expected to improve management of all snapper grouper species, including red snapper. |
| 2011 | Regulatory Amendment 10 eliminated the snapper grouper are closure to reduce discard mortality of red snapper. | Expected to reduce discard mortality of red snapper. |
| 2013 | Amendment 28 to the Snapper Grouper FMP set the commercial and recreational annual catch limits (ACL) and seasons to allow limited harvest of red snapper in 2013. | Expected to control fishing effort by setting catch limits. |

| Time period | Cause | Observed and/or expected effects |
|---|---|---|
| 2014 | Regulatory Amendment 21 changed the minimum stock size threshold (MSST) definition for eight snapper-grouper species including red snapper from MSST = [(1-M) or 0.5 whichever is greater]*$B_{MSY}$ to 0.75*$B_{MSY}$. | Expected to improve management of snapper grouper including red snapper. |
| 2017 | Amendment 43 which removed the process and equation used to determine the red snapper annual catch limit adopted in Amendment 28 and specified a total ACL of 42,510 fish and red snapper seasons for commercial and recreational sectors in the South Atlantic. | Expected to improve fisheries management of red snapper. |
| 2020 | Regulatory Amendment 33 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. | Expected to offer flexibility for fisheries management and more fishing opportunities for constituents. |

**9. Determine the magnitude and significance of cumulative effects.**

The primary objectives of this amendment and associated EIS are to end and prevent red snapper overfishing. The short and long-term direct and indirect effects of each of these actions are provided in Chapter 4 and include biological, social, economic and administrative impacts. The following discussion refers to the effects of past, present, and RFFAs on the various valued environmental components (VEC). Important VECs were identified for the overall actions to be taken with this amendment. VECs are "any part of the environment that is considered important

by the proponent, public, scientists and government involved in the assessment process. Importance may be determined on the basis of cultural values or scientific concern" (Environmental Information Partnership 1998). For purposes of this analysis, an initial 22 VECs were identified, and the consequences of each alternative proposed in this amendment on each VEC were evaluated. Some of these VECs were combined into a revised VEC because many of the past, current, and RFFAs were similar. Based on this analysis, fiver VECs were determined to be the most important for further consideration.

**Table 5.2.** Valued environmental components (VEC) identified.

| VEC considered for further evaluation | VECs consolidated for further evaluation | VECs not included for further evaluation |
|---|---|---|
| **Climate Change** | | Changes in ocean acidity, temperature, and other factors modify fish and prey distributions and productivity; threaten fishing communities through sea level rise and changing weather patterns. |
| **Ecosystem** | EFH<br>Prey species<br>Competitors<br>Predators | Sharks<br>Protected species |
| **Snapper-Grouper FMU/Red Snapper stock** | Red snapper<br>Other snapper-grouper species | |
| **Snapper-Grouper Fishery** | Vessel owner<br>Captain<br>Crew<br>Anglers<br>Dealers<br>Fishing communities<br>Fishing support businesses | |
| **Administration** | Federal rulemaking<br>Federal permitting<br>Federal education<br>Federal enforcement<br>Federal monitoring<br>State rulemaking<br>State education<br>State enforcement<br>State monitoring | |

VECs not included for further analysis were sharks, protected resources, climate change and consumers. During scoping, many comments were received that shark depredation is a real issue when fishing for snapper grouper species. However, the focus of Amendment 59 is to end and prevent overfishing of red snapper and there is not currently evidence showing that sharks are having a direct impact in the red snapper stock health.

Protected resources were also eliminated from further analyses in this section. As described in Section 3.2.4, biological opinions have concluded the primary snapper grouper fishing gears (longline and hook-and-line) were not likely to jeopardize listed species or their critical habitat. Because actions considered in this amendment are not expected to change how the fishing gear is used in the prosecution of the fishery, any take associated with fishing for snapper grouper should not exceed that considered in biological opinions. All other ESA-listed species have been found not likely to be adversely affected or not affected by the snapper grouper fishery. For marine mammals, gear used in the snapper grouper fishery were classified as Category III fisheries (see Section 3.3). This means this fishery has minimal impacts on marine mammals. Consumers were eliminated due to a lack of data for this aspect of the snapper grouper fishery.

Though climate change impacts might be impacting the red snapper population, there is not significant evidence to prove this. Currently, the biggest issues affecting red snapper are related to recreational discards.

*i. Ecosystem*

Current allowable gear types can adversely affect hard bottom areas; however, these impacts are not considered significant (see Section 4.1.1). Vertical-line gear and longlines used in the snapper grouper fishery can damage habitat through snagging or entanglement. Longlines can also damage hard bottom structures during retrieval as the line sweeps across the seafloor. Additionally, anchoring over hard-bottom areas can also affect benthic habitat by breaking or destroying hard bottom structures. However, these gear types are not believed to have much negative impact on bottom structures and are considerably less destructive than other gear, such as traps and trawls.

Damage caused from snapper grouper fishing, although minor, are associated with the level of fishing effort (see Section 4.1.1). Therefore, actions reducing levels of effort would result in greater benefits to the physical environment, because fishing related interactions with habitat would be reduced. Thus, actions described in Steps 3 (identification of the timeframe) and Step 4 (identification of past, present and future actions) of this CEA which have reduced fishing effort for some species, and possibly the fishery on the whole, have had a positive effect on hard bottom habitats. As described in Chapter 4, effects on the physical environment from the proposed actions would likely be minimal because prosecution of the fishery should not be changed.

Essential fish habitat and HAPC designations are intended to promote careful review of proposed activities that may affect these important habitats to snapper grouper species to assure that the minimum practicable adverse impacts occur on EFH. However, NMFS has no direct control

over final decisions on such projects. The cumulative effects of these alternatives depend on decisions made by action agencies other than NMFS, as NMFS and the Council have only a consultative role in non-fishing activities. Decisions made by other agencies that permit destruction of EFH in a manner that does not allow recovery, such as bulkheads on former mangrove or marine vegetated habitats, would constitute irreversible commitments. However, irreversible commitments should occur less frequently as a result of EFH and HAPC designations. Accidental or inadvertent activities such as ship groundings on coral reefs or propeller scars on seagrass could also cause irreversible loss.

At this time, it is unclear what effects climate change will have on the snapper grouper fishery and important ecosystem elements.

*ii. Snapper Grouper/ Red Snapper Stock*

The red snapper fishery has been subject to very short recreational and commercial seasons due to low catch limits and high amounts of dead discards. Red snapper fishing mortality is largely driven by dead discards in the recreational sector. Dead discards have resulted from targeting co-occuring snapper-grouper species, and are not limited to the red snapper season (Shertzer et al., 2024). The current action is expected to increase the ability to fish for red snapper by reducing dead discards. Future RFFAs are expected to benefit managed species by improving the information we collect in the recreational fishery and providing increased information about who is participating in the fishery. Additionally, management actions that benefit co-occurring species, such as black sea bass, may have beneficial effects on red snapper in the future.

*iii. Snapper Grouper Fishing Communities*

Adverse or beneficial effects of actions on vessel owners, captains, and crew are tied to the ability of a vessel to make money.

Marine infrastructure is tied to the commercial and recreational sectors and can be affected by adverse and beneficial economic conditions in those fisheries. Infrastructure refers to fishing-related businesses and includes marinas, rentals, snorkel and dive shops, boat dockage and repair facilities, tackle and bait shops, fish houses, and lodgings related to the recreational fisheries industry. Actions allowing the recreational and commercial sectors to expand have had a beneficial effect providing business opportunities to service the need of these industries. However, actions which have constrained the recreational sector have adverse effects, because lower revenues generated from the fishery would provide less support for marine infrastructure. These impacts are described in Chapter 4.

*iv. Administrative Environment*

Administration of fisheries is conducted through federal (including the Council) and state agencies that develop and enforce regulations, collect data on various fishing entities, and assess the health of various stocks. As more regulations are required to constrain stock exploitation to sustainable levels, greater administration of the resource is needed. The NMFS Office of Law Enforcement (OLE), in cooperation with state agencies, would continue to monitor regulatory compliance with existing regulations and NMFS would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels. Further, stock status needs to be periodically assessed to ensure stocks are being maintained at

proper levels. Overall, the proposed changes in this amendment are likely to have low positive to neutral impacts on the administrative environment. These impacts are described in Chapter 4.

**10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.**

The primary objectives of this amendment and associated EIS are to end and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress while providing additional opportunities for retaining red snapper and minimizing bycatch. Alternatives have been added and considered in this amendment/DEIS that consider various percentages of dead discard reductions (Action 4). The Magnuson-Stevens Act requires that conservation and management measures prevent overfishing, and if overfishing occurs, that actions are taken to stop the overfishing. Currently under the Snapper Grouper FMP, there are short commercial and recreational seasons, and low retention limits for red snapper (Figure 1.3.1). Catch limits that allow for fewer fish to be landed can result in decreased net economic benefits if harvest decreases. Also, stakeholders have expressed frustration with crowded boat ramps and reefs during the limited recreational red snapper seasons, making conditions potentially hazardous for boaters, since short seasons may result in anglers choosing to fish in dangerous conditions. NMFS is proposing the following actions in this amendment/DEIS to minimize the negative effects of decreased harvest and shortened seasons while balancing the conservation benefits and allowing for increased access in given areas during certain times.

Action 3. Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits

Action 4. Establish New Management Measures to Achieve Dead Discard Targets

Action 5. Modify Commercial Management Measures to Further Optimize Yield

Sub-Action 5a. Increase the Commercial Trip Limit for Red Snapper

Sub-Action 5b. Modify the Commercial Fishing Season for Red Snapper

Action 6. Modify the Recreational Fishing Season for Red Snapper to Further Increase Fishing Opportunities/Optimize Yield

**11. Monitor the cumulative effects of the selected alternatives and adapt management.**

Action 7 in this amendment considers establishing an Annual Experimental Studies Program to establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. The program would authorize some portion of the amount of red snapper that is the difference between the ABC and total ACL to be used in these projects. The results from the projects are intended to provide key information and improve the understanding of red snapper beyond the data currently obtained through stock assessments.

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 commercial and recreational landings data by all the four states in the South Atlantic Region (Florida, Georgia, South Carolina, and North Carolina). The National Marine Fisheries Service would continue to monitor and collect information on snapper-grouper species for stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. The proposed actions relate to the harvest of

indigenous species in the Atlantic, and the activities/regulations being altered do not introduce nonindigenous 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.

**Irreversible and Irretrievable Commitments of Resources**

Irreversible commitments are defined as commitments that cannot be reversed, except perhaps in the extreme long-term, whereas irretrievable commitments are lost for a period of time. There are no irreversible and irretrievable commitments in the Amendment 59.

**Unavailable or Incomplete Information**

The Council on Environmental Quality, in its implementing regulations for the National Environmental Policy Act (NEPA), addressed incomplete or unavailable information at 40 CFR § 1502.21

Incomplete or unavailable information. (a) When an agency is evaluating reasonably foreseeable significant effects on the human environment in an environmental impact statement, and there is incomplete or unavailable information, the agency shall make clear that such information is lacking. (b) If the incomplete information relevant to reasonably foreseeable significant effects is essential to a reasoned choice among alternatives, and the overall costs of obtaining it are not unreasonable, the agency shall include the information in the environmental impact statement. (c) If the information relevant to reasonably foreseeable significant effects cannot be obtained because the overall costs of obtaining it are unreasonable or the means to obtain it are not known, the agency shall include within the environmental impact statement:
(1) A statement that such information is incomplete or unavailable;
(2) A statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant effects on the human environment;
(3) A summary of existing credible scientific evidence that is relevant to evaluating the reasonably foreseeable significant effects on the human environment; and
(4) The agency's evaluation of such effects based upon theoretical approaches or research methods generally accepted in the scientific community.
(d) For the purposes of this section, "reasonably foreseeable" includes effects that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the effects is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.1502.22 (a) and (b). There are two tests to be applied: 1) Does the incomplete or unavailable information involve "reasonable foreseeable adverse effects...;" and 2) is the information about these effects "essential to a reasoned choice among alternatives....".

Stock assessments have been recently conducted and provide the information necessary for a reasoned choice among alternatives. SEDAR 73 (2021) showed that the red snapper stock is recovering consistent with rebuilding goals in the existing rebuilding plan, owing to higher than average recruitment of young fish in recent years. The SEDAR 73 Update Assessment (2024) indicated the stock is still experiencing overfishing based on the $F_{30\%SPR}$ benchmark, but has increased above the minimum stock size threshold (MSST) such that it is no longer overfished,

but is not yet rebuilt, and continues to make progress towards the existing rebuilding plan (https://sedarweb.org/assessments/sedar-73/). Therefore there is not any incomplete or unavailable information necessary to make a reasoned choice among the alternatives.

# Chapter 6. List of Preparers

| Name | Division | Role |
|---|---|---|
| Andy Strelcheck | SERO/Directorate | Regional Administrator |
| Heather Blough | SERO/Directorate | Assistant to Regional Administrator |
| Mary Vara | SERO/SF | Fishery Biologist |
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| Mike Barnette | SERO/PR | Biologist |
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| Matt Walia | SERO/OLE | Compliance Liaison |
| Monica Smit-Brunello | NOAA GC | NOAA General Counsel |
| Erik Williams | SEFSC | Branch Chief, Atlantic Fisheries Branch |
| Scott Crosson | SEFSC | Economist |
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NOAA=National Oceanic and Atmospheric Administration, NMFS = National Marine Fisheries Service, SERO = Southeast Regional Office, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, SEFSC=Southeast Fisheries Science Center, GC = General Counsel, SAFMC = South Atlantic Fishery Management Council Staff, OLE = Office of Law Enforcement.

# Chapter 7. List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent

Responsible Agencies

NMFS, Southeast Region
263 13th Avenue South
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727- 824-5301 (TEL)
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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. 2007. Amendment 14 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Impact Statement, Biological Assessment, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2008a. Amendment 15B to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2008b. Amendment 16 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis, and Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2009a. Fishery Ecosystem Plan I for the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2009b. Comprehensive Ecosystem-Based Amendment 1 for the South Atlantic Region, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis, and Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Suite 201; North Charleston, SC 29405.

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

SAFMC. 2011a. Comprehensive Annual Catch Limit Amendment (Amendment 25 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region), Final Environmental Impact Statement, Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2011b. Comprehensive Ecosystem-Based Amendment 2 for the South Atlantic Region, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis, and Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Suite 201; North Charleston, SC 29405.

SAFMC. 2011c. Regulatory Amendment 10 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Regulatory

Flexibility Analysis, and Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2013a. Amendment 28 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2013b. Amendment 31 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Region), Final Environmental Assessment, Initial Regulatory Flexibility Act Analysis, and Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405, and Gulf of Mexico Fishery Management Council, 4107 W Spruce St, #200, Tampa, FL 33607.

SAFMC. 2014. Regulatory Amendment 21 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Regulatory Flexibility Act Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2016a. Amendment 36 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, 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. 2016b. Amendment 37 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Impact Statement, Regulatory Impact Review, Regulatory Flexibility Analysis, and Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405

SAFMC. 2017a. Amendment 39 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (Modifications to Charter Vessel and Headboat Reporting Requirements), 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. 2017b. Abbreviated Framework 1 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Regulatory Impact Review and Regulatory Flexibility Act Analysis. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2017c. Amendment 43 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Regulatory Flexibility

Analysis, and Regulatory Impact Review, and Fishery Impact Statement. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2018. Abbreviated Framework 2 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Regulatory Flexibility Analysis and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2019a. Amendment 42 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Regulatory Flexibility Analysis and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2019b. Regulatory Amendment 30 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, 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. 2019c. Vision Blueprint Commercial Regulatory Amendment 27 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2020a. Abbreviated Framework 3 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC. 2020b. Regulatory Amendment 29 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment, Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2020c. Regulatory Amendment 33 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, Final Environmental Assessment and Regulatory Flexibility Analysis, and Regulatory Impact Review. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC. 2020d. Regulatory Amendment 34 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region, 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. 2022. Amendment 50 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. 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.

SAFMC. 2024. Amendment 54 (Comprehensive Commercial Electronic Logbook Amendment) 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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# Chapter 9. Index

# Appendix A. Considered but Rejected Alternatives

**Action 3.** Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits

**Alternative 5.** Reduce dead discards 40% from the baseline and use this discard reduction to increase the total annual catch limit to 491,000 or 449,000 fish based on the acceptable biological catch selected in Action 2.

**Rationale**: This alternative was removed from consideration because the 40% reduction target for reducing dead discards would have substantial social and economic impacts and other lesser reductions in dead discards allow for overfishing to be ended/prevented, while minimizing bycatch to the extent practical and optimizing yield.

**Action 4.** Establish Sector-Specific Annual Catch Limit Set Asides for Red Snapper

**Alternative 1 (No Action).** Do not establish an ACL set-aside for experimental studies testing innovative management strategies for reducing dead discards.

**Alternative 2.** Establish an ACL set-aside of up to 5% of each sector's ACL for experimental studies testing innovative management strategies for reducing dead discards. The set aside would be determined annually by the NMFS Regional Administrator prior to the start of the commercial and recreational fishing seasons based on authorized work in a given year.

**Alternative 3.** Establish an ACL set-aside of up to 10% of each sector's ACL for experimental studies testing innovative management strategies for reducing dead discards. The set aside would be determined annually by the NMFS Regional Administrator prior to the start of the commercial and recreational fishing seasons based on authorized work in a given year.

**Rationale**: This action and alternatives are now addressed in Action 7.

**Action 5. Establish New Management Measures to Achieve Dead Discard Targets**

**Alternative 2.** Establish discard reduction seasons. During these seasons, no person may fish for a South Atlantic Snapper-Grouper species with hook-and-line and no person may possess a South Atlantic Snapper-Grouper species from the EEZ that were harvested with hook-and-line gear. However, the prohibition on possession does not apply to a person aboard a vessel that is in transit with fishing gear appropriately stowed. Fishing gear appropriately stowed means…

**Sub-alternative 4**. The prohibition would apply to all sectors.

**Rationale**: This action is now included in Action 4. Management measures to achieve dead

discard targets are now addressed in Action 4, Sub-Action 5a and 5b and Action 6. For the commercial sector (Action 5), discards can be reduced by increasing the ACL and trip limit. During 2021-2023, commercial discards accounted for only 2% of the total red snapper dead discards.

**Alternative.** Discard reduction areas and seasons for the commercial sector.

**Rationale**: The commercial sector accounted for only 2% of red snapper dead discards during 2021-2023. After reviewing the preliminary economic impacts from discard reduction areas and seasons for the commercial sector, NMFS determined that the impacts did not justify the small amount of discard reduction for commercially caught red snapper.

**Alternative.** Discard reduction areas and seasons off the coasts of Georgia, South Carolina, and North Carolina and south of 28 degrees North.

**Rationale**: Red snapper discards from the recreational sector off the coasts of Georgia, South Carolina, and North Carolina and south of 28 degrees North account for only ~13% of the dead discards of red snapper. After reviewing the preliminary economic impacts from discard reduction areas and seasons to the commercial and recreational sectors off these states, NMFS determined that the impacts did not justify including these areas or time periods for achieving reductions in red snapper dead discards.

**Alternative**. Discard reduction areas and closed seasons for gears other than the hook and line gear for the recreational sector.

**Rationale**: The majority of red snapper discards are from recreational fishermen using hook and line gear. Therefore, NMFS determined that, to minimize economic and social impacts, the discard reduction areas and times should not be implemented for other gear such as spear.

**Alternative**. Discard reduction areas and seasons for species other than snapper-grouper species.

**Rationale**: The majority of red snapper discarding occurs when fishermen are targeting species in the snapper-grouper complex. Therefore, NMFS determined that, to minimize economic and social impacts, the discard reduction areas and closed seasons should not be implemented for other species such as dolphin, wahoo, and coastal migratory pelagics.

**Sub-alternative 2b.** Establish a discard reduction area for the recreational sector. In this area, no private recreational or for-hire fisherman may fish for, harvest, or possess,a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear.

This area is in the exclusive economic zone between 28° N and the Florida/Georgia border (30.7° N) and between the approximate depths of 90 to 120 ft. The area is defined by the coordinates shown in Table 2.1.3 and Figure 2.1.2.

Table 2.1.3. Boundary coordinates for the discard reduction area between 28° N and the Florida/Georgia border (30.7° N) in Sub-alternative 2b.

| Point | N. Latitude (degrees, minutes, seconds) | W. Longitude (degrees, minutes, seconds) | N. Latitude (decimal degrees) | W. Longitude (decimal degrees) |
|---|---|---|---|---|
| 1 | 30°42’ N | 80°42’12.96” W | 30.7000° N | 80.7036° W |
| 2 | 30°42’ N | 80°29’12.84” W | 30.7000° N | 80.4869° W |
| 3 | 30°20’ N | 80°28’ W | 30.3333° N | 80.4667° W |
| 4 | 30°00’ N | 80°40’ W | 30.0000° N | 80.6667° W |
| 5 | 29°45’ N | 80°25’ W | 29.7500° N | 80.4167° W |
| 6 | 28°00’ N | 80°08’32.64” W | 28.0000° N | 80.1424° W |
| 7 | 28°00’ N | 80°11’57.48” W | 28.0000° N | 80.1993° W |
| 8 | 29°00’ N | 80°25’ W | 29.0000° N | 80.4167° W |
| 9 | 29°20’ N | 80°40’ W | 29.3333° N | 80.6667° W |
| 10 | 29°30’ N | 80°30’ W | 29.5000° N | 80.5000° W |
| 11 | 29°50’ N | 80°50’ W | 29.8333° N | 80.8333° W |
| 12 | 30°15’ N | 80°55’ W | 30.2500° N | 80.9167° W |
| 13 | 30°30’ N | 80°50’ W | 30.5000° N | 80.8333° W |

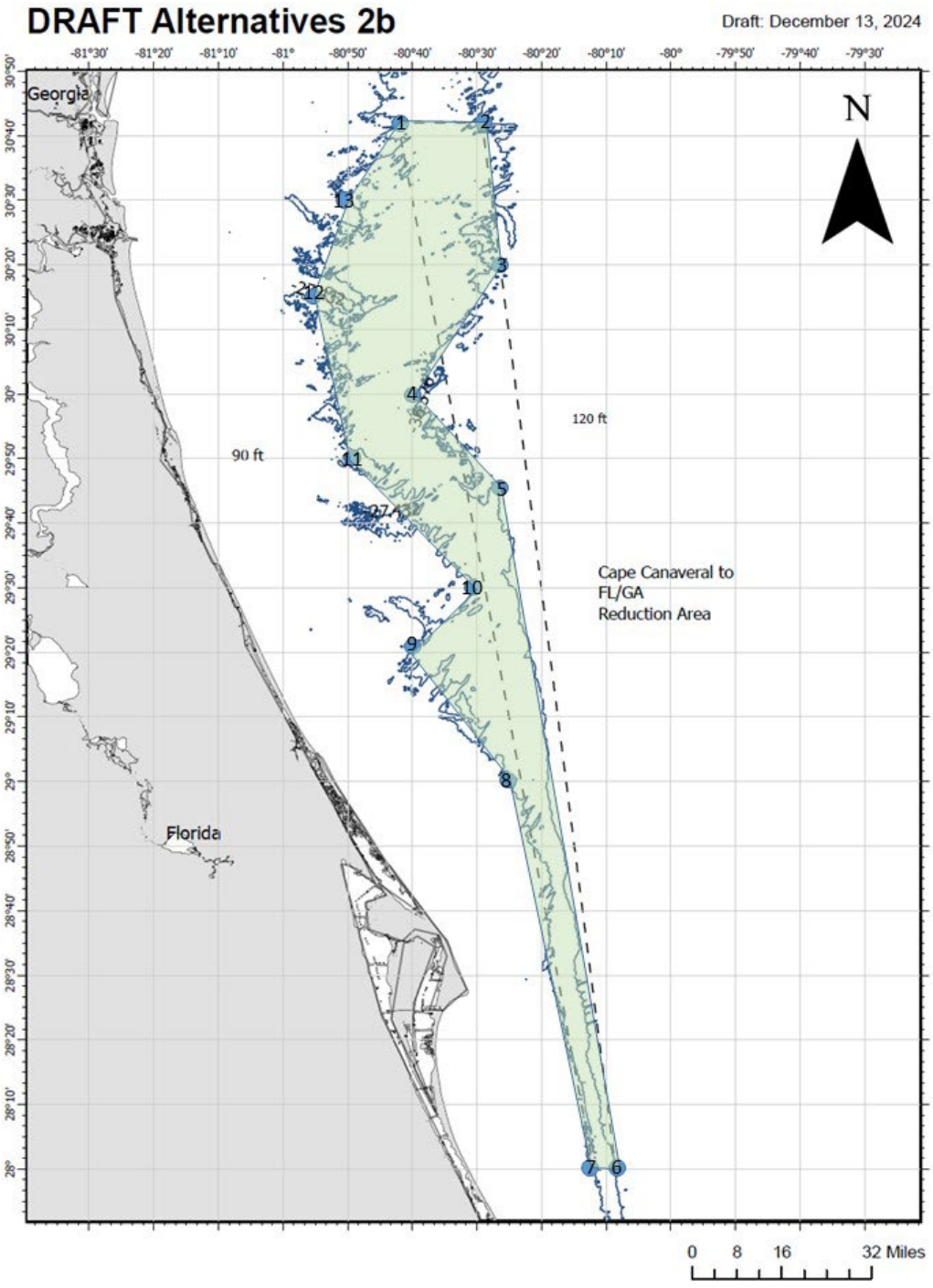


**Figure 2.1.2.** The location of the discard reduction area between 28° N and the Florida/Georgia border (30.7° N) in Sub-alternative 2b**.**

**Sub-alternative 3b.** Establish a discard reduction area for the recreational sector. In this area, no private recreational or for-hire fisherman may fish for, harvest, or possess, a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear.

This area is in the exclusive economic zone between 28° N and the Florida/Georgia border (30.7° N) and approximately between the depths of 80 to 100 ft. The area is defined by the coordinates shown in Table 2.1.8 and Figure 2.1.5.

Table 2.1.8. Boundary coordinates for the discard reduction area between 28° N and the Florida/Georgia border (30.7° N) in Sub-alternative 3b.

| Point | N. Latitude (degrees, minutes, seconds) | W. Longitude (degrees, minutes, seconds) | N. Latitude (decimal degrees) | W. Longitude (decimal degrees) |
|---|---|---|---|---|
| 1 | 30°42’ N | 80°50’58.92” W | 30.7000° N | 80.8497° W |
| 2 | 30°42’ N | 80°38’21.84” W | 30.7000° N | 80.6394° W |
| 3 | 30°20’ N | 80°40’ W | 30.3333° N | 80.6667° W |
| 4 | 30°00’ N | 80°50’ W | 30.0000° N | 80.8333° W |
| 5 | 29°50’ N | 80°40’ W | 29.8333° N | 80.6667° W |
| 6 | 29°25’ N | 80°25’ W | 29.4167° N | 80.4167° W |
| 7 | 28°00’ N | 80°10’01.56” W | 28.0000° N | 80.1671° W |
| 8 | 28°00’ N | 80°14’27.60” W | 28.0000° N | 80.2410° W |
| 9 | 29°05’ N | 80°30’ W | 29.0833° N | 80.5000° W |
| 10 | 29°10’ N | 80°45’ W | 29.1667° N | 80.7500° W |
| 11 | 29°28’ N | 80°50’ W | 29.4667° N | 80.8333° W |
| 12 | 29°30’ N | 80°35’ W | 29.5000° N | 80.5833° W |
| 13 | 29°35’ N | 80°40’ W | 29.5833° N | 80.6667° W |
| 14 | 29°40’ N | 80°55’ W | 29.6667° N | 80.9167° W |
| 15 | 30°20’ N | 81°05’ W | 30.3333° N | 81.0833° W |

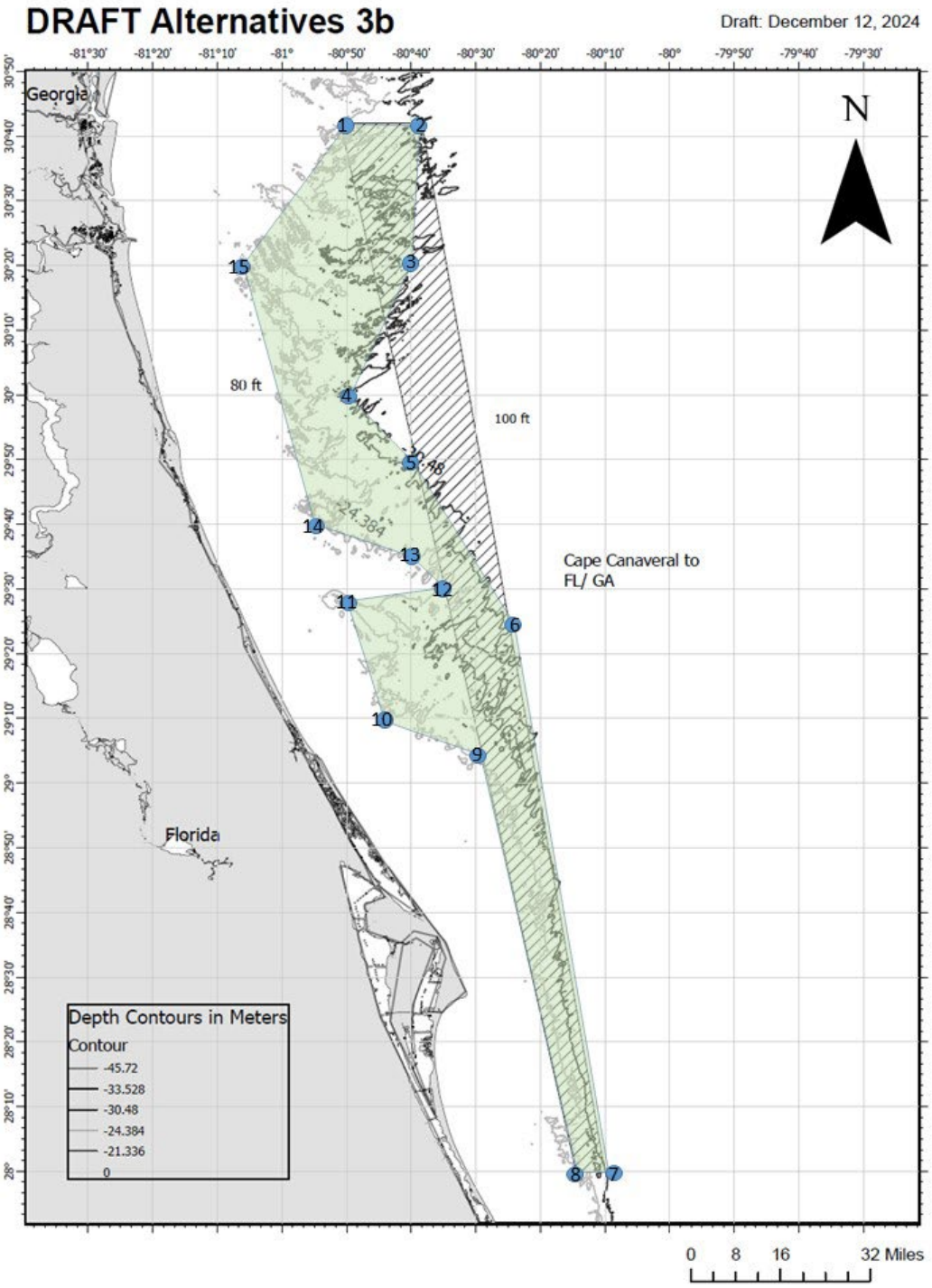


**Figure 2.1.5.** The location of the discard reduction area between 28° N and the Florida/Georgia border (30.7° N) in Sub-alternative 3b.

**Sub-alternative 4c**. Establish a discard reduction area for the recreational sector. In this area, no private recreational or for-hire fisherman may fish for, harvest, or possess,a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear.

This area is in the exclusive economic zone between 28° N and the Florida/Georgia border (30.7° N) and between the approximate depths of 80 to 130 ft. The area is defined by the coordinates shown in Table 2.1.15 and Figure 2.1.9.

Table 2.1.15. Boundary coordinates for the discard reduction area between 28° N and the Florida/Georgia border in Sub-alternative 4c.

| Point | N. Latitude (degrees, minutes, seconds) | W. Longitude (degrees, minutes, seconds) | N. Latitude (decimal degrees) | W. Longitude (decimal degrees) |
|---|---|---|---|---|
| 1 | 30°42’ N | 80°50’58.92” W | 30.7000° N | 80.8497° W |
| 2 | 30°42’ N | 80°22’06.96” W | 30.7000° N | 80.3686° W |
| 3 | 30°30’ N | 80°20’ W | 30.5000° N | 80.3333° W |
| 4 | 30°00’ N | 80°30’ W | 30.0000° N | 80.5000° W |
| 5 | 28°00’ N | 80°07’17.76” W | 28.0000° N | 80.1216° W |
| 6 | 28°00’ N | 80°14’27.60” W | 28.0000° N | 80.2410° W |
| 7 | 29°05’ N | 80°30’ W | 29.0833° N | 80.5000° W |
| 8 | 29°15’ N | 80°45’ W | 29.2500° N | 80.7500° W |
| 9 | 29°30’ N | 80°50’ W | 29.5000° N | 80.8333° W |
| 10 | 29°30’ N | 80°35’ W | 29.5000° N | 80.5833° W |
| 11 | 29°35’ N | 80°35’ W | 29.5833° N | 80.5833° W |
| 12 | 29°40’ N | 80°50’ W | 29.6667° N | 80.8333° W |
| 13 | 30°20’ N | 81°05’ W | 30.3333° N | 80.0833° W |

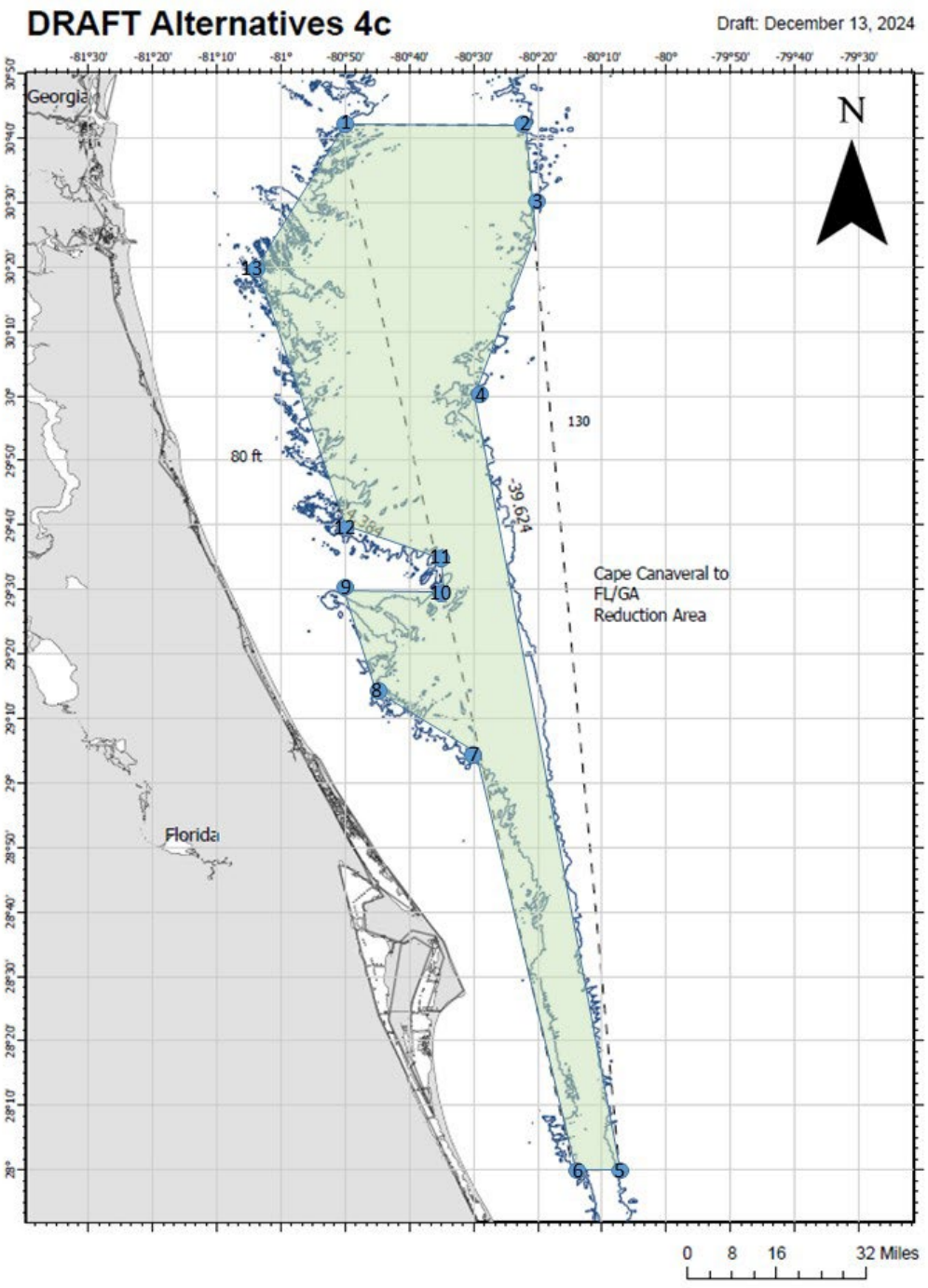


Figure 2.1.9. Location of the discard reduction area between 28° N and the Florida/Georgia border (30.7) in Sub-alternative 4c.

Rationale: Areas this large in size with this many waypoints are difficult to enforce. Additionally, these large depth-based discard reduction areas would result in greater social and economic impacts than alternatives considered in the amendment.

# Appendix B. Glossary

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

**Annual Catch Limit (ACL).** Amount of fish that can be harvested annually. The ACL is typically set lower than or equal to the ABC.

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

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

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

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

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

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

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

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

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

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

**Dead Discard**: Fish caught, but released at sea dead or that later dies post-release.

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

**Discards:** Fish caught, but released at sea.

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

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

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

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

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

**F:** Fishing mortality.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Marine Recreational Information Program (MRIP):** Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data. It replaced the MRFSS survey.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**South Atlantic Fishery Management Council (SAFMC):** One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop

management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

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

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

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

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

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

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

# Appendix C. Other Applicable Law

## 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 amendment, issued under section 304(c)(1)(A)of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), complies with the APA.

## 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 impact statement uses the best scientific information available and made a broad presentation thereof. Therefore, this document is in compliance with the IQA.

## 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 the actions in this amendment are consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina. Pursuant to Section 307 of the CZMA, this determination 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.

## 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.

## 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.

## 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.

## 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.

## 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 629,000 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.

## 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 actions in this document are not expected to affect PRA.

## 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.

## 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 incident responses, 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.

This actions proposed in this amendment intend to reduce dead discards and allow for longer commercial and recreational red snapper season to help minimize the adverse effects to fishermen's safety.

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 or reopen the recreational fishing season, including off a specific South Atlantic state, if a small craft advisory, or worse weather, exists or is projected to exist in the South Atlantic exclusive economic zone (EEZ) to reduce the likelihood that fishermen will go fishing during the recreational season during adverse weather conditions.

# Appendix D. History of Management

More information on amendments to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (Snapper-Grouper FMP) 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. Below are amendments to the Snapper-Grouper FMP and stock assessments addressing red snapper within the South Atlantic.

**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 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 types, 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 EEZ 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 Southeast Data, Assessment, and Review (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 rule 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 EEZ north of 28 degrees North latitude and specified a fishery-independent monitoring program for red snapper.

**SEDAR 24 (2010)**

A second stock assessment for red snapper was conducted in 2010, which found the stock to be overfished and undergoing overfishing; however, the rate of overfishing in SEDAR 24 (2010) 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 2013).

**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**.**

**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%.

**Emergency Rule (2012)**
The rule established red snapper seasons and ACLs for the commercial and recreational sectors in the South Atlantic EEZ 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 EEZ 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 minimum stock size threshold (MSST) definition for eight snapper-grouper species including red snapper from MSST = [(1-M) or 0.5 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 is 124,815 pounds whole weight and the recreational ACL is 29,656 fish. Through Amendment 43 and the associated 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 and the stock remained overfished and undergoing overfishing, but the stock was making adequate progress towards rebuilding.

**Regulatory Amendment 35 (never implemented)**
The framework amendment proposed modest reductions in red snapper annual catch limits and gear requirements to reduce red snapper discards. The Council initially voted to approve the amendment for Secretarial review in March 2023, but later rescinded this decision in December 2024.

**Interim Rule (2024)**
NOAA Fisheries implemented an interim rule on June 14, 2024, to reduce overfishing of red snapper, in response to SEDAR 73 (2021). The rule was effective through December 11, 2024, and it reduced the total, commercial, and recreational catch limits for red snapper in South Atlantic federal waters. The total catch limit was reduced from 42,510 to 31,000 fish. The commercial catch limit was reduced from 124,815 (lbs) whole weight (ww) to 85,268 lbs ww, and the recreational catch limit was reduced from 29,656 fish to 21,167 fish. The temporary rule also specified a 1-day recreational fishing season and extended the Regional Administrator's authority to make changes to the recreational season if a Small Craft Advisory exists, or is projected to exist.

# Appendix E. Any Data Analyses/Reports to Support the Actions and Alternatives

**Analysis of Season Duration and Reduction of Dead Discards in the Federal South Atlantic Red Snapper Fishery**

LAPP/DM Branch
NOAA Fisheries Service
Southeast Regional Office
December 2024

In July of 2021, the South Atlantic Fishery Management Council was informed that a recent assessment for red snapper (Southeast Data, Assessment and Review 73, 2021) indicated that the stock was overfished and undergoing overfishing. The South Atlantic Fishery Management Council started development on Regulatory Amendment 35 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region (Regulatory Amendment 35) to reduce catch levels of red snapper to address overfishing. Regulatory Amendment 35 was not submitted to National Marine Fisheries Service (NMFS) for implementation, preventing updated regulations that would end overfishing. An interim rule was published by NMFS in June of 2024 to temporarily reduce catch limits for red snapper. This amendment, Snapper Grouper Amendment 59 (Amendment 59), proposes measures to end overfishing of red snapper in the southeast region of the United States, which is largely driven by the magnitude of dead discards in the region. The SEDAR 73 Update Assessment 2024 was conducted to provide updated catch advice informed by more recent years of data.

This report estimates season duration for the commercial and recreational sectors for a range of acceptable biological catch (ABC) and annual catch limit (ACL) alternatives (Actions 2 and 3). Action 2 proposes that the ABC for red snapper be set equal to the amount of catch associated with 90% or 80% of the fishing mortality rate from 2021-2023, to be consistent with the $F_{MSY}$ proxy applied in this amendment. The ACL alternatives assume a set reduction in dead discards, 16%, 24% or 32%, which would allow for increased landed catch (SEDAR 72 Updated 2024). Analysis showing how a reduction in dead discards could be achieved are also addressed in this analysis. Lastly, this analysis discussed how changes to the fishing start date might impact the season duration estimates provided in the document.

**Data Sources**

The Southeast Fisheries Science Center (SEFSC) compiled updated landings and discard data for use in the SEDAR 73 Update Assessment 2024. Commercial landings come from dealer reports provided to the SEFSC and discard estimates are generated from the Commercial discard logbook program. Recreational landings and discards are estimated with the Marine

Recreational Information Program (MRIP), For-Hire Survey (FHS), and the Southeast Region Headboat Survey (SRHS). MRIP uses the Access Point Angler Intercept Survey (APAIS) to collect dockside catch data from anglers fishing from shore, private boats, and for-hire vessels in North Carolina, South Carolina, Georgia, and the east coast of Florida. MRIP uses the Fishing Effort Survey (FES) is used to collect trip information from shore and private boat recreational anglers from a mail survey. The combination of dockside APAIS data and mail survey FES effort data are used to generate catch estimates for species caught by recreational private anglers. The FHS is used to collect effort information from the for-hire component of the recreational survey. The combination of APAIS data and FHS effort are used to generate catch estimates for species caught by the charter component of the recreational sectors. Lastly, the SRHS provides landings and discards from the headboat fleet, based on the electronic logbook data provided by each vessel in the survey.

Application of data obtained from 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 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. An ad-hoc group consisting of NMFS and state employees who were involved in the MRIP and individual state red snapper surveys was formed in 2020 to review MRIP and state survey data (SEDAR 73-WP10) and to determine the best estimates to use to characterize the South Atlantic red snapper recreational landings for the SEDAR 73 assessment. This methodology was again used to determine the most appropriate data source for 2021 through 2023 recreational landings data for the SEDAR 73 Update Assessment in 2024. The SRHS is the only survey that collects recreational landings from headboats.

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.

**Commercial Season Duration Analysis**

The commercial season will begin on the second Monday in July, unless otherwise specified. A season duration analysis was conducted to project the commercial season length based on various ABC (Action 2) and ACL (Action 3) alternatives. Commercial landings data from 2018 to 2023 were investigated to determine the daily catch rate for the commercial sector. Data from July and August were used to characterize landings behavior during the federal fishing season (**Table 1**). Landings of red snapper tend to be highest in July of each year, with lower landings

recorded in August or subsequent months in the calendar year, as the fishing season is closed before the end of August in most recent years. The ABC and ACL alternatives being proposed in this amendment are higher than the status quo, which is likely to extend the commercial season past the month of August. August landings were used for September to December in the season duration analysis, as there is minimal landings information from those months to represent open season commercial fishing for red snapper during those months.

The daily catch rate was determined by dividing the landings per month by the number of days the fishing season was open in each month. Three daily catch rate estimates were used to project season duration: A) 5 year minimum (2019-2023), B) 3 year recent average (2021-2023), and C) 5 year maximum (2019-2023) catch rates (**Table 1**).

Table 1. South Atlantic red snapper commercial daily catch rates in July and August for three daily catch rate options: 5 year minimum (2019-2023), 3 year average (2021-2023), and 5 year maximum (2019-2023) daily catch rate in pounds whole weight (lb ww).

| Month | 5 Year Minimum Daily Catch Rate (2019-2023) | 3 Year Average Daily Catch Rate (2021-2023) | 5 Year Maximum Daily Catch Rate (2019-2023) |
|---|---|---|---|
| 7 | 2,154 | 2,554 | 3,098 |
| 8 | 1,677 | 2,195 | 2,579 |

Source: Data provided by SEFSC August 2024, SEDAR 73 Update Assessment 2024.

These estimates were used to provide a reasonable range of season duration estimates that encompass the potential for lower or higher catch rates in the commercial sector. The projected landings for each month were used to predict the dates when the commercial ACL would be met for each commercial ABC and ACL alternative proposed in this amendment. The second Monday in July for 2025 was used as the start date for the commercial fishing season in this analysis. The three projected daily landings rates were summed cumulatively and compared against the ACL, in pounds whole weight (lb ww), for each alternative. The estimated closure dates are shown in **Table 2** and **3** for Action 2 **Preferred Alternative 2** and Alternative 3, respectively.

Both Action 2 ABC alternatives allow for ACL alternatives to be set much higher than the no action alternatives, with all of the ACLs for Action 2: Preferred Alternative 2 more than double the current ACL for the commercial sector. This allows for the projected season length to extend into November or December, if using catch rates that are representative of the last three years (Option B described above). Even under the scenario that uses the maximum catch rate, the commercial fishing season could be extended into October or November under the Action 2 **Preferred Alternative 2**. The season lengths projected for Action 2 Alternative 3 would all be at least double the season length currently projected for the current status quo of the commercial sector. While the lower Action 2: Alternative 3 ABC and ACL alternatives were not selected as the preferred, these catch limit values would still provide a substantial increase in the season length as compared to the status quo.

Table 2. Projected closure dates and season lengths for Action 2: Preferred Alternative 2 and Action 3 Alternatives 1 through 4, evaluated using three daily catch rates. Season closure dates assume the commercial season starts on the first Monday of July.

| **ACL Alternatives** | **5 Year Minimum Daily Catch Rate (2019-2023)** | | **3 Year Recent Average Daily Catch Rate (2021-2023)** | | **5 Year Maximum Daily Catch Rate (2019-2023)** | |
|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: ACL = 124,815 lb ww | 4-Sep | 59 | 21-Aug | 45 | 12-Aug | 36 |
| Alternative 2: ACL = 300,000 lb ww | 18-Dec | 164 | 9-Nov | 125 | 19-Oct | 104 |
| **Preferred Alternative 3**: ACL = 346,000 lb ww | NO CLOSURE | 178 | 30-Nov | 146 | 5-Nov | 121 |
| Alternative 4: ACL = 390,000 lb ww | NO CLOSURE | 178 | 20-Dec | 166 | 22-Nov | 138 |

Table 3. Projected closure dates and season lengths for Action 2: Alternative 3 and Action 3 Alternatives 1 through 4, evaluated using three daily catch rates. Season closure dates assume the commercial season starts on the first Monday of July.

| **ACL Alternatives** | **5 Year Minimum Daily Catch Rate (2019-2023)** | | **3 Year Recent Average Daily Catch Rate (2021-2023)** | | **5 Year Maximum Daily Catch Rate (2019-2023)** | |
|---|---|---|---|---|---|---|
| | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1: ACL = 124,815 lb ww | 4-Sep | 59 | 21-Aug | 45 | 12-Aug | 36 |
| Alternative 2: ACL = 233,000 lb ww | 8-Nov | 124 | 10-Oct | 95 | 23-Sep | 78 |
| **Preferred Alternative 3**: ACL = 284,000 lb ww | 8-Dec | 154 | 2-Nov | 118 | 12-Oct | 97 |
| Alternative 4: ACL = 330,000 lb ww | NO CLOSURE | 178 | 23-Nov | 139 | 30-Oct | 115 |

**Commercial Trip Limit Analysis**

The season duration analysis for commercial season duration was updated to evaluate a set of commercial trip limit alternatives, Sub-Action 5a. The current commercial trip limit is 75 pounds gutted weight (lb gw), and this amendment is considering increasing it to 100, 150, or 200 lb gw. This trip limit regulation change was analyzed with commercial logbook data since

this data provides the pounds of red snapper harvest for each commercial trip. Commercial logbook data were provided from the SEFSC on April 16, 2024. In the past 10 years the South Atlantic red snapper commercial sector has had limited open days for commercial harvest due to closures from the landings approaching and/or reaching the commercial annual catch limit. The South Atlantic red snapper commercial trips in the time period July and August in 2021, 2022, and 2023 were isolated and analyzed because the commercial red snapper sector was open at this time. The pounds gutted weight of red snapper harvested per commercial trip were separated into the weight bins of 25 (0 to 25), 50 (26 to 50), 75 (51 to 75), 100 (76 to 100), 125 (101 to 125), 150 (126 to 150), and greater than 150 lb gw. **Figure 1** provides the distribution of red snapper commercial harvest per trip. About 34% of the commercial trips exceeded the current South Atlantic red snapper 75 pound trip limit with 33% of the total trips harvesting 76 to 100 lb gw.

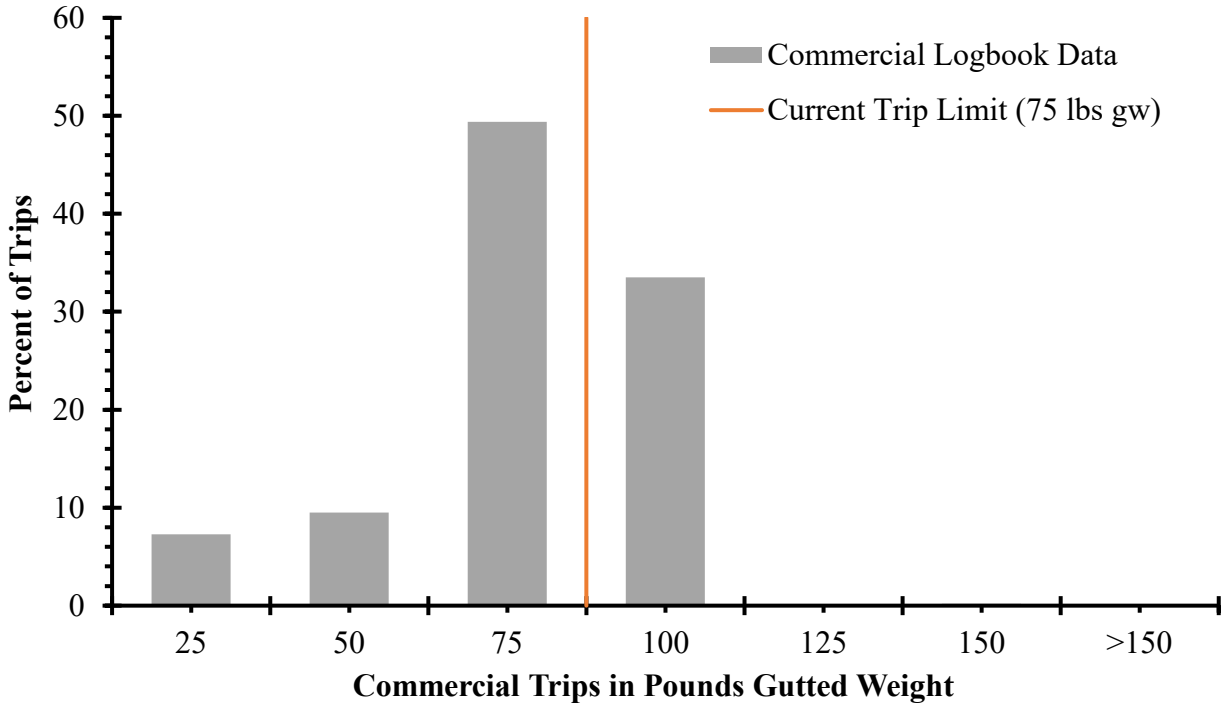


Figure 1. Distribution of the South Atlantic red snapper commercially harvested per trip (lb gw).

Data comes from the commercial logbook dataset in July and August from 2021, 2022, and 2023. This resulted in 4,099 commercial trips. The orange line represents the current commercial trip limit of 75 pounds gutted weight.

The impact from increasing the trip limit was evaluated assuming trips that met the current trip limit in recent years will also meet the new trip limit. This provides a maximum estimated harvest rate that may occur if the trip limit is increased. Not all trips meeting the current trip limit will likely meet the newly proposed trip limits, but information is not available to determine exactly how many additional pounds of red snapper these trips would harvest once the trip limit is increased. Trips that met the current trip limit were defined as trips that landed 51 to 75 lb gw. Therefore, the proposed trip limit of 100 lb gw is being explored by adjusting any trips that had

51 to 75 lb gw per trip, and adjusting those trips to meet the new trip limit of 100 pounds. Then a percent increase was calculated comparing the unadjusted and adjusted landings. The range of modified trips starts at 51 pounds instead of 75 pounds to account for any trips that were close to but under the current trip limit of 75 pounds. Trips that harvested below 51 pounds per trip were not modified. Trips with landings greater than the current trip limit of 75 pounds were also not modified since these trips did not follow the current 75 lb gw trip limit in the past, and will probably not follow the new implemented trip limit in the future. This modified trip limit analysis was conducted using only July and August 2021, 2022, and 2023 data. The analysis resulted in estimated percent increase in commercial landings from increasing the commercial trip limit (**Table 4**).

Table 4. Calculated percent increase in commercial landings for the Action 5 trip limit alternatives using the recent commercial logbook data from July and August of 2021, 2022, and 2023.

| **Trip Limit** | **Percent Increase in Landings** |
|---|---|
| Alternative 1: 75 lb gw trip limit | 0.0 |
| Alternative 2: 100 lb gw trip limit | 15.9 |
| **Preferred Alternative 3**: 150 lb gw trip limit | 47.7 |
| Alternative 4: 200 lb gw trip limit | 79.5 |

The season duration analysis was conducted again, using only the catch limits for Action 2: **Preferred ABC Alternative 2** and Action 3: **Preferred ACL Alternative 3** to evaluate when the catch limit was met. The three daily catch rates were adjusted to account for the percent increase in landings associated with each Action 5 trip limit alternative, and the updated daily catch values were cumulatively summed to generated updated closure date and season length predictions (**Table 5**). The increased catch rates, predictably reduced the season length as the trip limit value for each alternative increased. Discarding in the commercial sector is higher during the open season than during the closed season, so any reduction in season length would likely reduce dead discards for the sector. It should be noted that the magnitude of discards estimated for the commercial sector is much lower than what is estimated for the recreational sector, approximately 2% of total discards are attributed to the commercial sector.

Table 5. Projected closure date and season lengths for Action 2: Preferred Alternative 2 and Action 3: Preferred Alternative 3 ACL value evaluated using three daily catch rates for each Action 5 trip limit alternative. Season closure dates assume the commercial season starts on the first Monday of July.

| **Action 2: Preferred ABC Alternative 2 / Action 3 Preferred ACL Alternative 3ACL Alternatives** | **5 Year Minimum Daily Catch Rate** | | **3 Year Recent Average Daily Catch Rate** | | **5 Year Maximum Daily Catch Rate** | |
|---|---|---|---|---|---|---|
| **Action 5 Trip Limit Alternatives** | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1 (No Action): 75 lb gw trip limit | - | 178 | 30-Nov | 146 | 5-Nov | 121 |
| Alternative 2: 100 lb gw trip limit | 17-Dec | 163 | 8-Nov | 124 | 18-Oct | 103 |
| **Preferred Alternative 3**: 150 lb gw trip limit | 8-Nov | 124 | 10-Oct | 95 | 23-Sep | 78 |
| Alternative 4: 200 lb gw trip limit | 15-Oct | 100 | 21-Sep | 76 | 7-Sep | 62 |

**Commercial Season Start Date**

In addition to considering a change to the trip limit for the commercial sector, Sub-Action 5b considers changing the red snapper fishing season for the commercial sector. There are limited data that represent commercial landings for a federal season opening before July in recent years. To evaluate the alternatives for Sub-Action 5b, it was assumed that the landing behavior for July and August would be reasonable proxies for an earlier start to the commercial fishing season. The landings rates for each season start date alternative would likely follow a similar pattern as the current season, with higher landings in the first month the season opens, with a reduction in subsequent months. **Tables 6** and **7** show the projected season closure date if the fishing season were to start on May 1 and June 1, respectively.

Table 6. Projected closure date and season lengths for Action 2: Preferred Alternative 2 and Action 3: Preferred Alternative 3 ACL value evaluated using three daily catch rates for each Action 5 trip limit alternative. Season closure dates assume the commercial season starts on May 1.

| **Action 2: Preferred ABC Alternative 2 / Action 3 Preferred ACL Alternative 3ACL Alternatives** | **5 Year Minimum Daily Catch Rate** | | **3 Year Recent Average Daily Catch Rate** | | **5 Year Maximum Daily Catch Rate** | |
|---|---|---|---|---|---|---|
| **Action 5 Trip Limit Alternatives** | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1 (No Action): 75 lb gw trip limit | 26-Nov | 178 | 25-Oct | 146 | 30-Sep | 121 |
| Alternative 2: 100 lb gw trip limit | 11-Nov | 163 | 3-Oct | 124 | 12-Sep | 103 |
| **Preferred Alternative 3**: 150 lb gw trip limit | 3-Oct | 124 | 4-Sep | 95 | 18-Aug | 78 |
| Alternative 4: 200 lb gw trip limit | 9-Sep | 100 | 16-Aug | 76 | 2-Aug | 62 |

Table 7. Projected closure date and season lengths for Action 2: Preferred Alternative 2 and Action 3: Preferred Alternative 3 ACL value evaluated using three daily catch rates for each Action 5 trip limit alternative. Season closure dates assume the commercial season starts on June 1.

| **Action 2: Preferred ABC Alternative 2 / Action 3 Preferred ACL Alternative 3ACL Alternatives** | **5 Year Minimum Daily Catch Rate** | | **3 Year Recent Average Daily Catch Rate** | | **5 Year Maximum Daily Catch Rate** | |
|---|---|---|---|---|---|---|
| **Action 5 Trip Limit Alternatives** | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* | *Projected Closure Date* | *Projected Season Length* |
| Alternative 1 (No Action): 75 lb gw trip limit | 26-Oct | 178 | 24-Sep | 146 | 30-Aug | 121 |
| Alternative 2: 100 lb gw trip limit | 11-Oct | 163 | 2-Sep | 124 | 12-Aug | 103 |
| **Preferred Alternative 3**: 150 lb gw trip limit | 2-Sep | 124 | 4-Aug | 95 | 18-Jul | 78 |
| Alternative 4: 200 lb gw trip limit | 9-Aug | 100 | 16-Jul | 76 | 2-Jul | 62 |

**Recreational Season Duration Analysis**

A season duration analysis was also conducted to project the recreational season length based on various ABC (Action 2) and ACL (Action 3) alternatives. The current ACL has resulted in short fishing seasons due to low ACLs and high daily catch rates (>9,000). The ACL alternatives proposed for Action 2: **Preferred Alternative 2** are more than two times higher than the current ACL for the recreational sector. This is likely to lead to longer fishing seasons being proposed as a result of this action, as compared to the most recent seasons in the fishery. Recreational landings from July of 2018-2023 were investigated to understand trends in recent landing behavior that encompass seasons that were longer than the 2-3 day seasons that occurred in 2021 through 2023 (**Table 8**). Sector level daily catch rates were calculated for each year from 2018-2023. Four daily catch rate values were generated to project the recreational season length: minimum daily catch rate (2018-2023), median daily catch rate (2018-2023), and maximum daily catch rates for 2018-2023 and 2018-2022. The maximum daily catch rates from 2018-2023 was excluded from the final analysis presented here due to high PSE's and a landings value from Georgia that is higher than every other value from Georgia between 2018 and 2023. The remaining daily catch rate options project a range of season lengths that represent low, average and high landings behavior within the recreational fishery. These predicted landing rates are assumed to have a uniform distribution for each day the fishery is open, with the number of fishing days predicted for each ABC and ACL alternative described in **Tables 9** and **10**.

Table 8. Summary of recreational landings (# of fish) data from July between 2018 and 2023, by state. Daily catch rates were calculated by dividing the July harvest by the number of days the season was open in July.

| July Recreational Landings (# of fish) | | | | | | |
|---|---|---|---|---|---|---|
| **State** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** |
| FL | 33,234 | 40,977 | 36,197 | 36,035 | 19,056 | 29,420 |
| GA | 23,413 | 15,859 | 14,812 | 6,825 | 2,694 | 45,144 |
| NC | 400 | 28 | 1,640 | 7,784 | 48 | 951 |
| SC | 110 | 15,010 | 23,640 | 332 | 110 | 605 |
| **Total** | **57,156** | **71,873** | **76,290** | **50,976** | **21,908** | **76,120** |
| Daily Recreational Catch Rates (# of fish) | | | | | | |
| FL | 5,539 | 8,195 | 9,049 | 12,012 | 9,528 | 14,710 |
| GA | 3,902 | 3,172 | 3,703 | 2,275 | 1,347 | 22,572 |
| NC | 67 | 6 | 410 | 2,595 | 24 | 475 |
| SC | 18 | 3,002 | 5,910 | 111 | 55 | 303 |
| **Total** | **9,526** | **14,375** | **19,072** | **16,992** | **10,954** | **38,060** |

Source: Data provided by SEFSC August 2024, SEDAR 73 Update Assessment 2024.

Table 9. Predicated recreational season length using the minimum (2018-2023), median (2018-2023) and maximum (2018-2022) daily catch rates for the Action 2: Preferred Alternative 2 ABC and each of the Action 3 ACL alternatives.

| **Action 2: ABC Preferred Alternative 2**<br><br>**Action 3 ACL Alternatives** | **Minimum Daily Catch Rate (2018-2023)**<br>*9,526 fish/day* | **Median Daily Catch Rate (2018-2023)**<br>*15,683 fish/day* | **Maximum Daily Catch Rate (2018-2022)**<br>*19,072 fish/day* |
|---|---|---|---|
| Alternative 1: ACL = 29,656 fish | 3.1 days | 1.9 days | 1.6 days |
| Alternative 2: ACL = 64,000 fish | 6.7 days | 4.1 days | 3.4 days |
| **Preferred Alternative 3**: ACL = 85,000 fish | 8.9 days | 5.4 days | 4.5 days |
| Alternative 4: ACL = 105,000 fish | 11.0 days | 6.7 days | 5.5 days |

Table 10. Predicated recreational season length using the minimum (2018-2023), median (2018-2023) and maximum (2018-2022) daily catch rates for the Action 2: Preferred Alternative 2 ABC and each of the Action 3 ACL alternatives.

| Action 2: ABC Alternative 3<br><br>Action 3 ACL Alternatives | Minimum Daily Catch Rate (2018-2023)<br><br>*9,526 fish/day* | Median Daily Catch Rate (2018-2023)<br><br>*15,683 fish/day* | Maximum Daily Catch Rate (2018-2022)<br><br>*19,072 fish/day* |
|---|---|---|---|
| **Alternative 1**: ACL = 29,656 fish | 3.1 days | 1.9 days | 1.6 days |
| **Alternative 2** : ACL = 40,000 fish | 4.2 days | 2.6 days | 2.1 days |
| **Preferred Alternative 3**: ACL = 59,000 fish | 6.2 days | 3.8 days | 3.1 days |
| **Alternative 4**: ACL = 80,000 fish | 8.4 days | 5.1 days | 4.2 days |

The season length, when using the median catch rate from 2018-2023 predicts a range of 4 – 7 days for the Action 2: **Preferred Alternative 2** ACL alternatives, and a range of 2.5 – 5 days when considering the Action 2 Alternative 3 ACL values. To prevent an ACL overage, these season length predictions are likely to be rounded down to avoid exceeding the ACL for predictions that include partial days.

**Recreational Season Start Date**

Action 6 of this amendment corresponds with alternatives that would alter the start date of the recreational fishing season. The season duration analysis above represents a range of expected available fishing days for the recreational sector. The season length is not expected to change with a different start date for the recreational sector. The season lengths projected are not likely to extend past 11 fishing days, even if lower daily catch rates are assumed. The season start dates are expected to shift the fishing effort to fall within the weekends designated by the **Preferred Action 6 alternative**, likely between 2 and 3 two-day fishing weekends for the recreational sector.

**Discard Reduction Analysis**

The season duration analysis presented above is based on an assumed reduction in dead discards, which would allow an increase in harvest as dead discards are converted to available landings in the ABC and ACL alternatives proposed in Action 2 and Action 3. The majority of discards are attributed to the recreational sector of the red snapper fishery in the South Atlantic (**Figure 2**). The following analysis will focus only on the recreational sector, as only 2% of discards are attributed to the commercial sector. Instead of including the commercial sector in the subsequent analysis, the amendment aims to use the implementation of a commercial trip limit to reduce dead discards contributed by the commercial sector.

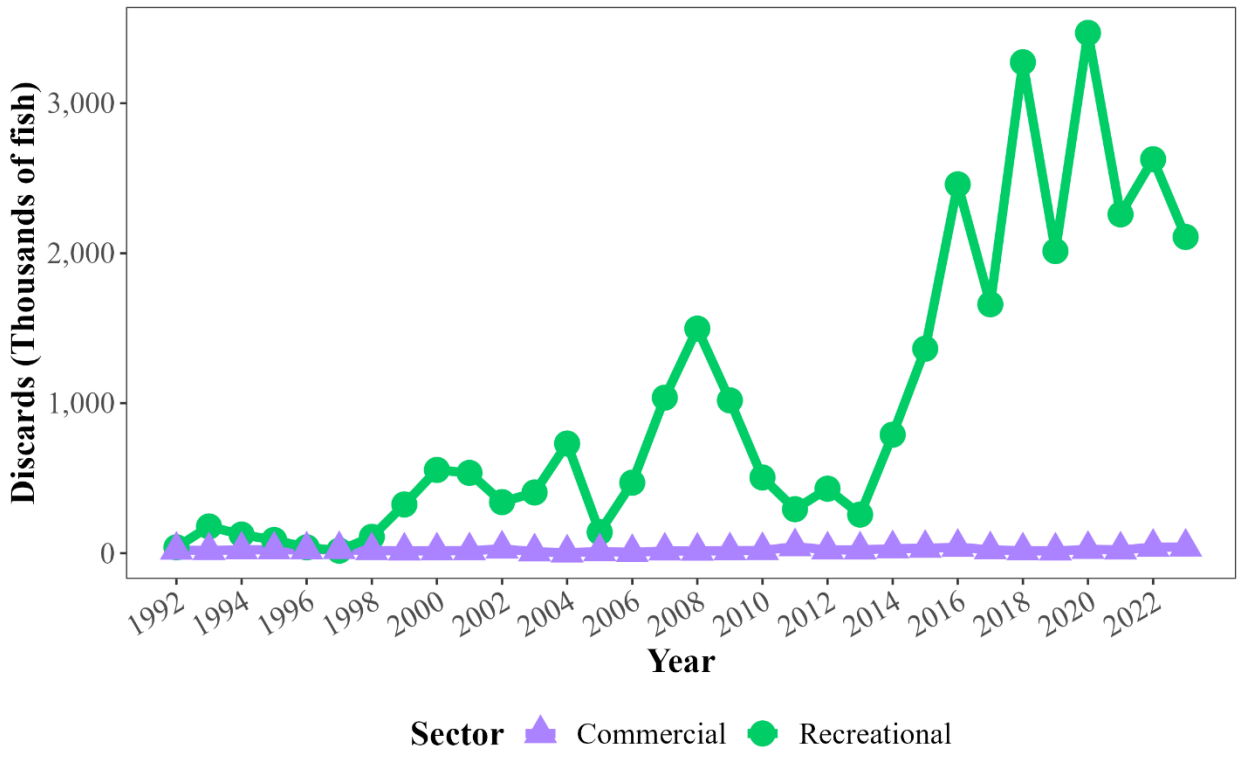


Figure 2. Discard estimates from the South Atlantic red snapper fishery, by sector from 1992 to 2023, in numbers of fish.
Discard estimates provided in SEDAR 73 Update Assessment 2024.

This analysis was conducted based on the assumption that the proposed alternatives from Action 4, would eliminate bottom fishing in the exclusive economic zone (EEZ) for defined temporal periods, spatial zones, and / or depth ranges. The prohibition of bottom fishing would then reduce discarding to zero for the proposed discard reduction periods and areas. The discarding behavior of the recreational sector was investigated by year, wave, and state, using the discard estimates generated by the MRIP (FES), FHS, and SRHS (**Figure 3**). Discard estimates from these sources are self-reported, and therefore cannot be directly validated. There is concern that recall bias may impact the reported values, but MRIP (APAIS) trip interviews occur dockside, directly after recreational anglers return from fishing trips, likely reducing this bias. These estimates were used to evaluate several discard reduction alternatives to better understand the impact of eliminating recreational fishing trips during certain temporal periods or in discrete spatial areas. Two alternatives are proposed in this document for each of the required discard reduction percentages described in Action 3: 16%, 24% and 32% reduction in dead discards.

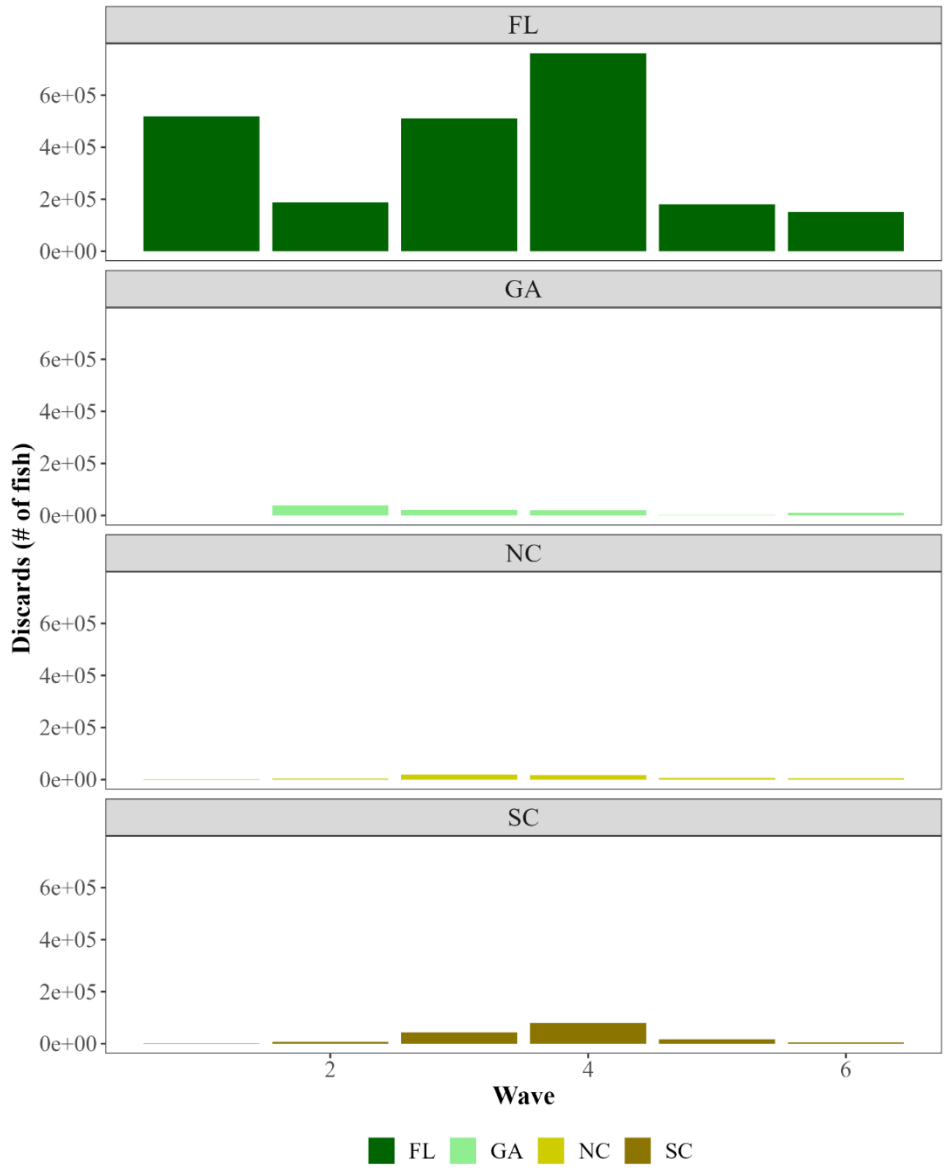


Figure 3. South Atlantic red snapper discards (in number of fish) for the recreational sector, by state, averaged over the three years (2021-2023).
Source: Data provided by SEFSC August 2024, SEDAR 73 Update Assessment 2024.

To quantify the discard reduction potential for each alternative, the magnitude of discards was characterized in latitudinal swaths. The location for each MRIP APAIS intercept site, or SRHS logbook record was used to categorize discard estimates along the southeast coast of the United States. This methodology was used in Snapper Grouper Regulatory Amendment 35 to describe the magnitude of discards in the South Atlantic (Regulatory Amendment 35). Discard estimates for the private boat and charter fleet use the location from the post-fishing trip interview site as a proxy for location of fishing activity for each trip. These discard estimates do not directly incorporate east to west dynamics in recreational angler discard behavior, but likely reflect the

relative difference in discarding behavior along the coast along a latitudinal gradient. The SRHS estimates are based on logbook reports that categorize the geographic location of each trip, with both latitude and longitude available to describe each trip. Annual discard estimates for the recreational sector were aggregated in 0.2 decimal degree bins and plotted in **Figure 4** for the three most recent years of full data (2021-2023). Discarding hot spots are most prevalent between the Cape Canaveral region and the Florida / Georgia border.

Distribution of red snapper fishing trips in an east to west gradient were described by aggregating data regarding trip depth from SRHS discard logbook data and the Florida Fish and Wildlife State Reef Fish Survey (SRFS). Headboat data was used as a proxy to describe recreational fishing depths from North Carolina through Georgia. These depth data represent the most comprehensive annual dataset with depth information for the South Atlantic recreational sector for these states. SRFS collects self-reported depth information directly from the private boat fleet on the East coast of Florida, the largest contributor to discards in the South Atlantic red snapper fishery. Trip depth data from these surveys was aggregated for the last 3 years (2021 to 2023), to generate a distribution of fishing depths for trips with red snapper interactions (**Figure 5**).

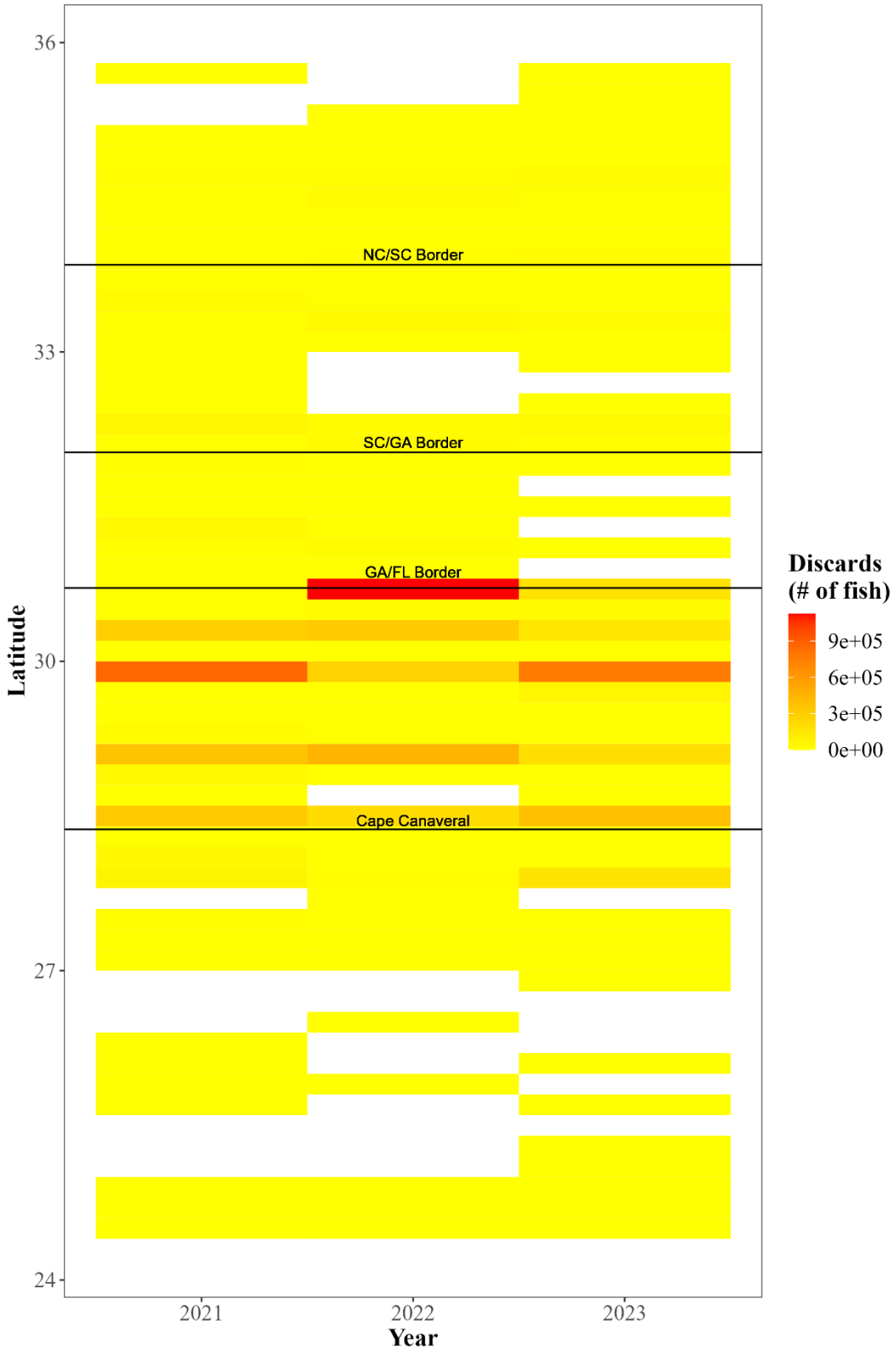


Figure 4. Heat map of aggregated discard estimates (in number of fish) for the recreational sector by year and latitude for the South Atlantic red snapper fishery.

Source: MRIP APAIS trip records and SRHS electronic logbook records from 2021 to 2023, SEDAR 73 Update Assessment 2024.

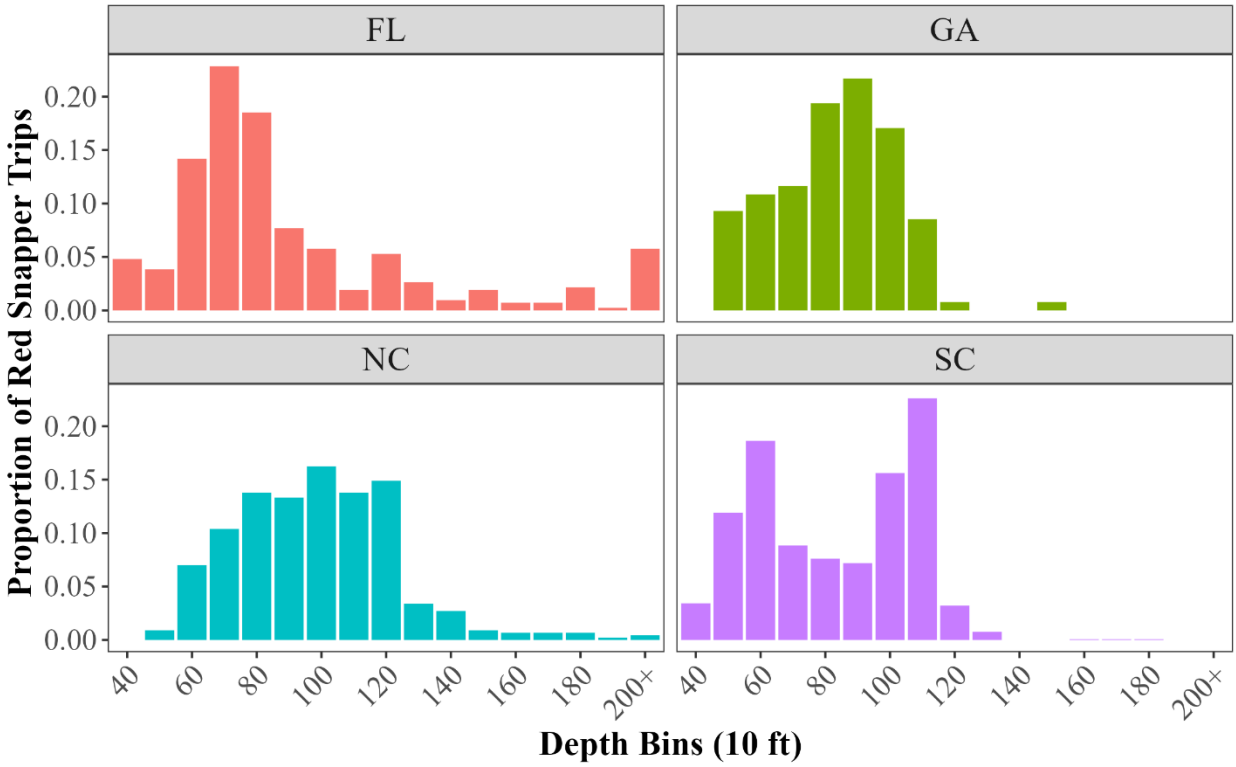


Figure 5. Distribution of trips positive for red snapper interactions in 10 ft depth bins, by state, for 2021-2023.
Source: FL FWC SRFS dockside trip reports and SRHS electronic logbook records 2021 to 2023.

Discard mortality estimates for this analysis were informed by a SEDAR 73 data workshop working paper that described discard mortality by depth, for a series of descender device usage scenarios (SEDAR 73-WP15). The magnitudes for the 75% descender device usage scenario represent the range of discard mortalities used in the uncertainty analysis of the SEDAR 73 Update Assessment 2024. These discard mortality proportions were used to estimate the proportion of live releases that would become dead discards, by depth.

These three components were combined to generate a relative dead discard index to evaluate spatial discard reduction alternatives. A latitudinal and longitudinal grid of the South Atlantic region, between 28 N and the North Carolina / Virginia border, was used to define a spatially explicit grid of the South Atlantic region. Each grid cell corresponded to a 0.05 by 0.05 degree bin, with a single depth value assigned to each bin. The state specific proportion of red snapper trips associated with the depth of each cell and a discard mortality proportion for each cell were then assigned throughout the regional grid domain. Additionally, each cell was assigned a discard magnitude value informed by the 3 year average of discard estimates from the coarser 0.2 decimal degree latitudinal bins described above. These discard mortality proportions were not

uniformly distributed across each 0.2 decimal degree latitudinal swath, instead higher proportions were associated with cells with the highest proportion of trip effort by depth. The final relative dead discard index value was calculated by multiplying these three scalars together. The dead discard index value for each cell reflects a measure of dead discards informed by the magnitude of discards by latitude, the likelihood of red snapper trips occurring in a depth, and a discard mortality value associated with the depth of the cell. The final percent reduction value for spatially explicit alternatives was calculated by summing the index values for each cell associated with each alternative and dividing it by the total relative dead discards for the entire grid matrix (**Figure 6**).

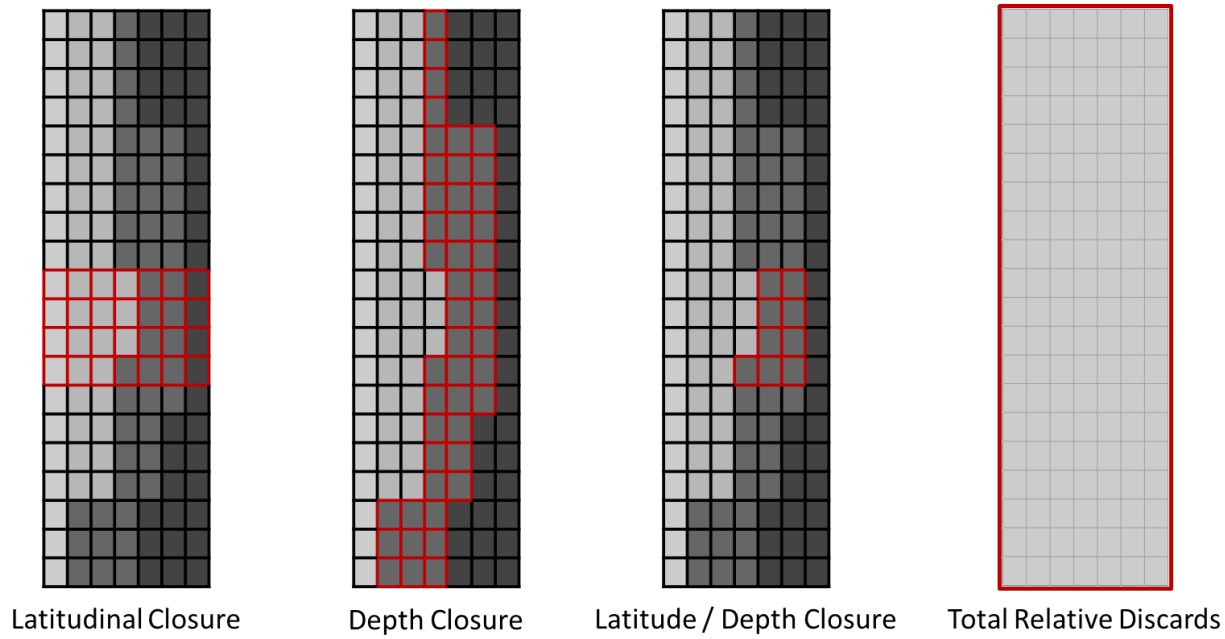


Figure 6. Visual representation of the three possible spatial discard reduction options: latitudinal closure, depth closure or combination latitudinal and depth closure.

Final percent reductions for each spatial alternative were calculated by dividing the sum of the relative discards in the red boxes associated with a closure by the sum of all relative discards within the grid.

To evaluate temporal closures, a discard mortality value was applied to the proportion of discards by latitude, specific to the general recreation fleet (charter and private boat) and the headboat fleet. The discard mortality estimates correspond with the values used in the SEDAR 73 Update Assessment. A three year average (2021-2023) of dead discard estimates for the recreational sector were aggregated by wave and latitude. A daily dead discard rate was calculated by dividing the dead discard estimate by the number of days in each wave, creating a uniform distribution of daily dead discards by latitude. The percent reduction in dead discards was estimated by determining the proportion of dead discards associated with each temporal

closure season proposed. **Tables 11-13** correspond with the projected percent reductions for each of the Action 4 Alternatives. The highest percent reductions were observed when discard reductions areas were focused in northeast Florida, where the highest estimates of discards are observed in recreational surveys.

Table 11. Projected percent reductions for Action 4: Alternative 2 – 16 % reduction in dead discards.

| **Action 4 - Alternative 2** | **Projected % Reduction** |
|---|---|
| Alternative 2a: Establish two discard reduction areas that prohibit, throughout the year, recreational fishing for Snapper-Grouper species in the EEZ in depths between 80 to 150 ft. The first area is off Jacksonville, Florida between 30.3 and 30.7° N latitudes and the second area is off Cape Canaveral, Florida between 28.3 and 28.7° N | 16.3% |
| Alternative 2b: During January 1 through February 14 of each year, prohibit recreational fishing for Snapper-Grouper species in the EEZ between 28° N and the Florida/Georgia border (30.7° N) | 17.4% |

Table 12. Projected percent reductions for Action 4: Alternative 3 – 24 % reduction in dead discards.

| **Action 4 - Alternative 3** | **Projected % Reduction** |
|---|---|
| Alternative 3a: Establish three discard reduction areas that prohibit, throughout the year, recreational fishing for Snapper-Grouper species in the EEZ between depths of 80 to 150 ft. The first area is off Jacksonville, Florida between 30.3 and 30.7° N latitudes, the second area is in the exclusive economic zone off St. Augustine, Florida between 29.5 and 29.9° N latitudes, and the third area is in the exclusive economic zone off Cape Canaveral, Florida between 28.3 and 28.7° N latitudes | 25% |
| **Preferred Alternative 3b**: During December 1 through February 28/29, prohibit recreational fishing for snapper-grouper in the EEZ between 28° N and the Florida/Georgia border (30.7° N) | 26% |

Table 13. Projected percent reductions for Action 4: Alternative 4 – 32% reduction in dead discards.

| Action 4 - Alternative 4 | Projected % Reduction |
|---|---|
| Alternative 4a: Establish four discard reduction areas that prohibit, throughout the year, recreational fishing for Snapper-Grouper species in the EEZ between 70 to 110ft. The first areas is off Jacksonville, Florida between 30.4 and 30.7° N latitudes, the second area is off St. Augustine, Florida between 29.7 and 29.9° N latitudes, the third area is off Daytona Beach, Florida between 29.1 and 29.3° N latitudes, and the fourth area is off Cape Canaveral, Florida between 28.4 and 28.7° N latitudes. | 32.4% |
| Alternative 4b: During January 1 through February 28/29, prohibit recreational fishing for snapper-grouper species in the EEZ and one discard reduction area that prohibits, throughout the year, recreational fishing off Jacksonville, Florida between 30.3 and 30.7° N latitudes between the approximate depths of 80 to 150 ft. | 33.1% |

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# Appendix F. Bycatch Practicability Analysis (BPA)

## F.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.

The suite of actions proposed in Amendment 59 would:

1. Revise the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing from $F_{30\%SPR}$ to $F_{MSY}$ or a different reasonable proxy based on the best scientific information available consistent with National Standard 2.

2. Increase the Acceptable Biological Catch for red snapper from 53,000 fish (total removals) to 509,000 fish (total removals).

3. Decrease red snapper discards 24% from baseline $F_{21-23}$ projections to increase the total Annual Catch Limit from 42,150 fish (landings only) to 500,000 fish (total removals).

4. Establish an annual recreational discard reduction season during December 1 through February 28/29, during which time private anglers and for-hire fishermen are prohibited from fishing for, harvesting, or possessing in or from federal waters of the South Atlantic between Cape Canaveral and the Florida/Georgia border any species in the Snapper-Grouper Fishery Management Unit that was harvested with hook-and-line fishing gear.

5. Increase the commercial red snapper trip limit from 75 pounds gutted weight to 150 pounds gutted weight.

6. Modify the commercial red snapper fishing season effective 2026 to begin May 1 rather than the second Monday in July.

7. Modify the recreational red snapper fishing season to occur Saturdays and Sundays rather than Friday through Sunday. The season would begin on the second Saturday in July in 2025, and on the second Saturday in June beginning in 2026.

8. Establish an Experimental Studies Program that will authorize the annual harvest of up to 9,000 red snapper annually that would otherwise be prohibited in accordance with scientific research, exempted fishing, or exempted educational activity requirements outlined at 50 CFR 600.745 to identify and test innovative strategies to further reduce discards and discard mortality in the red snapper fishery.

9. Modify the fishing year for South Atlantic red snapper to run from May 1 through April 30, rather than January 1 through December 31.

## F.2 Population Effects for the Bycatch Species

The Snapper-Grouper Fishery Management Unit (FMU) includes 55 bottom- and reef-dwelling fish species, many of which are fished during different seasons and subject to different regulations. Regulatory discards and discard mortality of red snapper and other species are a pervasive issue. While red snapper biomass has appreciably increased since the rebuilding plan was established in 2010, dead discards continue to limit fishing opportunities and could compromise rebuilding goals if recruitment decreases to historical levels by impacting the size and age composition of the population.

*Recreational Sector*

Most red snapper fishing mortality (98% during 2021-2023; 2024 SEDAR 73 Update Assessment) is attributed to dead discards that occur in the recreational sector during the directed red snapper fishing season and also during the closed red snapper season while fishers are

targeting other snapper-grouper species that co-occur with red snapper. From 2018 through 2022, red snapper was one of the top four discarded species on trips capturing a snapper-grouper species for all three modes (Table F-1). The vast majority of recreational red snapper discards occur off Florida (Table F-2) during the summer months of Wave 4 (Table F-3). The number of red snapper discards has been variable even with decreasing season lengths (Table F-4).

**Table F-1**. 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 F-2**. 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 F-3**. 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 F-4**. 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 |

| Year | Discards (Number of Fish) | Season Length (Days) |
|---|---|---|
| **2020** | Not Available* | 4 |
| **2021** | 54,685 | 3 |
| **2022** | 34,864 | 2 |
| **2023** | 24,273 | 2 |
| **2024** | 19,064 | 1 |

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 red snapper and several other snapper-grouper species exceed landings for certain modes of fishing (Table F-5). Red snapper estimated recreational discards to landings ratios are very high (1,890% - headboat component, 1,542% - charter component, 762% - private recreational component; Table F-5).

**Table F-5**. 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% |

| 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) |
| 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)

*Commercial Sector*

Commercial discards of red snapper and other snapper-grouper species are shown in Table F-6. Most discards originate from handline/electric rig and trap gear, with some discards attributed to trolling gear, and relatively few discards attributed to longline and diving gear. It is possible that trip-level reporting leads to the relatively high discard estimates from trolling gear; these may be sets using another gear type (i.e., handline/electric rig) on a trip declared as a trolling gear trip. The ratio of commercial landings to commercial discards is not compared because commercial landings are reported in pounds and discards are reported in numbers of fish.

**Table F-6**. 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).

From 2018 through 2022, the commercial sector of the South Atlantic snapper-grouper fishery identified red snapper as the third most commonly discarded species (Table F-7).

**Table F-7**. 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 Porgy | 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).

Of the four discard codes, regulations (i.e., out of season) was the most common reason selected for discarding red snapper based on self-reported discards (79%) (Table F-8).

**Table F-8.** 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).

Release mortality rates for the snapper-grouper fishery are widely variable species to species and sector to sector, dependent on fishing mode (Table F-9), 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 update assessment of South Atlantic red snapper (SEDAR 73 Update Assessment 2024). 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 F-9).

**Table F-9**. 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 | 6.80% | SEDAR 56 (2018) |

| Species | Fishery | Release mortality | Data Source |
|---|---|---|---|
| | (2007- present) | | |
| 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 and educational initiatives is to minimize to the extent practicable the mortality of any red snapper or other snapper-grouper bycatch that cannot be avoided.

## F.3 Ecological Effects Due to Changes in Bycatch

In addition to directly impacting the structure of the red snapper population, bycatch can impact the community structure of the ecosystem that supports the population by changing the availability of prey, the productivity of co-occurring fish species, and the number of fish that are returned to the water dead or dying. In 2022, NOAA Fisheries reported to Congress on bottlenose dolphin and shark interactions with commercial, for-hire, and private recreational fisheries in the South Atlantic and Gulf of Mexico, including depredation and scavenging. Existing information indicates dolphin interactions occur primarily in recreational and commercial hook and line fisheries throughout the Gulf of Mexico and off Florida's east coast, and shark interactions have been reported in recreational and commercial hook and line fisheries in both the Gulf of Mexico and South Atlantic; however, the nature, extent, frequency, and geographic locations of dolphin- and shark-fishery interactions are not fully understood.

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

Because of the multispecies nature of the snapper-grouper fishery, regulations affecting the catch and effort of one species can impact the bycatch of others, resulting in related population and ecosystem effects. Additionally, both the recreational and commercial snapper-grouper sectors likely target a wide range of species other than snapper-grouper during each trip, including coastal migratory pelagic species. The top three species caught with red snapper on a recreational trip in the South Atlantic region are vermilion snapper, black sea bass, and gray triggerfish (Table F-10). For the commercial sector, it is vermilion snapper, gag, and gray triggerfish (Table F-11). Any regulations impacting red snapper catch and effort have the potential to impact the bycatch of these species. The population and ecosystem effects of bycatch and bycatch reduction measures for other snapper-grouper species are expected to be similar to those for red snapper. If not properly managed and accounted for, bycatch can result in overfishing, reduce stock biomass to an unsustainable level, and hinder stock rebuilding efforts. And measures to reduce discards can increase stock biomass and related fishing opportunities, and improve the health of the surrounding ecosystem.

**Table F-10**. 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.

Table F-11. 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 Porgy | 14.9 |
| Greater Amberjack | 14.7 |

| Species Landed | Percent of Trips |
|---|---|
| Scamp | 11.9 |
| Almaco Jack | 8.7 |
| Red Grouper | 5.9 |
| Snowy Grouper | 4.9 |

Source: Southeast Fisheries Science Center Commercial Logbook (March 2023). These analyses are limited to co-occurrence of landings and do not include information on species that were discarded at-sea.

Proposed actions in Amendment 59 to transition a portion of red snapper discards to landings through establishment of a discard reduction season and area is expected to benefit the snapper-grouper complex and ecological environment by providing a temporary refuge for these species and reducing the number of fish that are returned to the water dead or dying.

## F.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 77789; September 24, 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 U.S. 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 fishery. Thus, the fishery is not likely to adversely affect the Bermuda petrel and the roseate tern.

## F.6. Changes in Fishing, Processing, Disposal, and Marketing Costs

None of the actions proposed in Amendment 59 would directly apply to federally-permitted dealers, and none is expected to substantially alter fishing, processing, disposal, or marketing costs. The proposed action to increase the ACL is expected to increase the number of red snapper commercial target trips relative to the status quo, and trip-level operating costs. And increasing the commercial red snapper trip limit and aligning the commercial red snapper season with the opening of the shallow-water grouper complex is expected to increase the economic efficiency of the commercial sector to some degree. However, these effects cannot be quantified with existing data, and individual fishing businesses may experience varying effects based on their operating characteristics and profit maximization strategies. It is assumed that all recreational fishing trips that would have occurred within the discard reduction season and area would be cancelled with no effort redistribution to other times, areas, or activities. If this assumption does not hold, the cost of fishing could increase for fishermen in the Cape Canaveral to Florida/Georgia area who redistribute effort to other areas during that time period.

## F.7. Changes in Fishing Practices and Behavior of Fishermen

Some of the actions proposed in Amendment 59 are expected to impact fishing practices and behavior in a way that reduces red snapper discards; particularly in the recreational sector. The proposed action to increase the ACL is expected to increase the number of red snapper commercial, private recreational, and for-hire target trips relative to the status quo. Proposed actions to modify the commercial and recreational fishing season start dates will change the timeframe in which fishermen target red snapper. The proposed action to prohibit recreational fishermen from fishing for, harvesting, or possessing any species in the snapper-grouper FMU that was harvested between Cape Canaveral and the Florida/Georgia border with hook-and-line fishing gear during December through February is expected to reduce recreational fishing effort during that 3-month time period. Overall, the combined effects of these actions would be expected to result in a modest decline in recreational fishing effort during the year.

## F.8. Changes in Research, Administration, and Enforcement Costs and Management Effectiveness

Amendment 59 would not establish any new reporting or record-keeping requirements. Estimates of private angler and charter discards 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. 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.

The commercial sector of the Snapper-Grouper fishery reports discard data 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.[15] 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).

NOAA Fisheries' Southeast Fisheries Science Center 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 South Atlantic and Gulf of

[15] More information on the discard logbook is available here https://www.fisheries.noaa.gov/about/southeast-fisheries-science-center.

Mexico Fishery Management Councils, 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.

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, in 2024, NMFS allocated $879,211 to support five projects that aim to identify and test new strategies to improve the status of red snapper and increase fishing opportunities in the snapper-grouper fishery by reducing the proportion of red snapper discards relative to landed catch. Information on those projects can be found on the SEFO EFP webpage. The proposed actions in Amendment 59 would expand this effort by establishing an annual program to test innovative management strategies, and reduce administrative costs by streamlining review of requests to conduct experimental studies that would otherwise be prohibited in accordance with scientific research, exempted fishing, or exempted educational activity requirements outlined at 50 C.F.R. § 600.745, and providing a more flexible and efficient approach to making overfishing determinations based on the best scientific information available (BSIA).

The proposed action to establish a discard reduction season and area would require increased law enforcement attention be dedicated to that area during the December through February timeframe. And allowing recreational fishermen to transit the area during the closed season under certain conditions, as well as the harvest, possession, and retention of species in the snapper-grouper complex by gears other than hook and line gear, would increase the complexity of enforcing that regulatory measure. The proposed action to increase the red snapper ACL and extend the recreational fishing season over more weekends may increase safety at sea by spreading out fishing effort during the recreational season and allowing for angler fishing opportunities to occur over a longer period of time, and when adverse weather conditions from the hurricane season are less likely to occur. Additionally, Amendment 59 would provide NMFS' Regional Administrator greater flexibility to modify the opening and closing dates of the recreational season, or reopen the recreational season if weather conditions such as a small craft advisory or more severe conditions exist or are projected to exist.

## F.9. Changes in the Economic, Social, or Cultural Value of Fishing Activities and Non-Consumptive Uses of Fishery Resources

The economic and social impacts of the actions proposed in Amendment 59, including those that are likely to increase or decrease discards, are discussed in Section 4. In summary, proposed actions to reduce discards 24% to increase the red snapper ACL, and establish an annual Experimental Studies Program, are expected to increase red snapper harvest opportunities, and net economic benefits from the recreational and commercial sectors, between $6.86 million and $18.7 million in 2025. When this net benefit is combined with the net loss in revenue estimated in association with the proposed discard reduction season and area, the overall change in net economic benefit is estimated to be between -$12.3 million to -$519,021in the 2025 fishing year. The analyses of the changes in economic benefits indicates an increase of $ 354,534 in net economic benefits to the commercial sector, and a possible decrease of $12.7 million or $873,555 in net economic benefits to the recreational sector.

## F.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 G) provides additional information on changes in the distribution of benefits and costs. Proposed actions to revise the $F_{MSY}$ proxy used to determine if red snapper is undergoing overfishing, increase the red snapper ABC, reduce discards 24% to increase the red snapper ACL, establish an annual Experimental Studies Program, and change the start date of the red snapper fishing year and fishing season would apply to all commercial fishing businesses, for-hire fishing businesses, and private anglers that fish for red snapper in federal waters. The proposed action to increase the commercial red snapper trip limit would apply only to commercial fishing businesses. And the proposed action to prohibit from December through February fishing for, harvesting, or possessing in or from federal waters of the South Atlantic between Cape Canaveral and the Florida/Georgia border any species in the Snapper-Grouper Fishery Management Unit that was harvested with hook-and-line fishing gear would apply only to for-hire fishing businesses and private anglers fishing in that area because most red snapper fishing mortality (98% during 2021-2023; 2024 SEDAR 73 Update Assessment) is attributed to dead discards in the recreational sector and most fish are captured and discarded in that area with hook and line gear. Specifically, the discard reduction season and area would most impact private anglers and charter vessels in communities within the counties of: Brevard, Clay, Duval, Flagler, Nassau, St. Johns, and Volusia, Florida; and Camden, Georgia. Headboats fishing in that area in recent years operated out of the counties of Brevard, Duval, St. Johns, and Volusia, Florida (SRHS, 2019-2023).

## F.11. Social Effects

The proposed actions in Amendment 59 would reduce dead discards of red snapper 24% to increase the lengths of the recreational and commercial red snapper fishing seasons, and related fishing opportunities, by constraining recreational fishing for snapper-grouper species through the creation of a discard reduction area and transitioning dead discards to landed fish. Amendment 59 may also increase safety at sea by spreading out red snapper fishing effort during the recreational season and allowing for angler fishing opportunities to occur over a longer period of time, and when adverse weather conditions from the hurricane season are less likely to occur. The 24% reduction in dead discards proposed in Amendment 59 would be achieved through a recreational discard reduction season and area for snapper-grouper species. Discard reduction seasons and areas can have negative social effects on affected fishermen. Snapper-grouper species are prime target fish for recreational fishing participants and provide benthic fishing opportunities for for-hire and private recreational participants. Hook-and-line is the gear used by the majority of the snapper-grouper recreational sector and a prohibition on fishing with this gear would impact nearly all recreational snapper-grouper fishing participants who utilize the fishing grounds in the affected area. These effects are discussed in greater detail in Section 4.

Florida communities located along the central to northern Atlantic coast are expected to be impacted to the greatest extent from the creation of a discard reduction area, along with some coastal Georgia communities located near to the state line because the proposed discard reduction areas are located in adjacent waters. However, long-term social benefits for those throughout the South Atlantic may be associated with the long-term biological benefits of discard reduction areas, such as the benefit to the red snapper stock from a reduction in dead discards and its contribution toward rebuilding red snapper, which can contribute to improved fishery resources.

## F.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*

Together, the suite of actions proposed in Amendment 59 are expected to further minimize red snapper bycatch to the extent practicable taking into account the ten factors provided at 50 C.F.R. § 600.350(d)(3)(i).

1. Proposed Action 1 to revise the $F_{MSY}$ proxy based on the results of the SEDAR 73 Update Assessment (2024) would support higher catch levels and lower discard reduction objectives relative to Alternative 1 (No Action). However, NMFS determined the benefits of reducing dead discards 40% as required by Alternative 1 (No Action) would not offset the economic and social impacts of related discard reduction measures given projection results from the SEDAR 73 Update Assessment (2024) indicate the proposed new $F_{MSY}$ proxy combined with recent, above-average recruitment would maintain adequate rebuilding progress until the next assessment is completed.

2. Proposed Action 2 to increase the red snapper ABC to 509,000 fish (total removals) would require additional regulatory action to reduce discards 8%. This action would support higher red snapper catch levels relative to Alternative 1 (No Action) and Alternative 3, but achieves the objective of incorporating a buffer between the OFL and ABC to safeguard against scientific uncertainty while increasing overall net economic benefits for all sectors to the greatest extent.

3. Proposed Action 3, which reduces red snapper discards 24% to increase the ACL to 500,000 fish (total removals), best balances the objective of increasing red snapper fishing opportunities at the least cost. The Alternative 1 (No Action) ACL is based on outdated data that no longer represents the best scientific information available. Reducing discards by 16% from the baseline would result in smaller direct and indirect social and economic benefits from the harvest of additional red snapper than the proposed action. Reducing dead discards 32% from the baseline would have resulted in larger benefits from the harvest of additional red snapper than the proposed action, but necessitated more severe discard reduction measures that were determined to be impractical considering the limited fishing season lengths that would be supported by that reduction.

4. Proposed Action 4 would achieve the 24% red snapper dead discard reduction objective by establishing a dead discard reduction season and area. From December 1 through February, recreational fishermen would be prohibited from fishing for, harvesting, or possessing any species within the snapper-grouper FMU harvested with hook-and-line fishing gear in or from federal waters between Cape Canaveral and the Florida/Georgia border. The economic and social effects of this temporal spatial area closure are significantly less relative to a year-round spatial area closure.

5. Proposed Action 5 would modify the commercial fishing season start date to align with the opening of the shallow-water grouper season and increase the commercial red snapper trip limit from 75 lbs gutted weight (gw) to 150 lbs gw that would double the days the commercial sector is able to fish for red snapper, while reducing in-season discards and increasing economic efficiency; especially for trips that are longer in duration and trips that target co-occurring species with red snapper as well. This action best balances the

need to reduce discards through higher retention limits with improved economic efficiency and intermediate length seasons compared to the other alternatives.

6. Proposed Action 6 would modify the start of the recreational fishing season to extend the fishing season over more weekends, which may benefit safety at sea by spreading out fishing effort during the recreational season and allowing for angler fishing opportunities to occur over a longer period of time, and when adverse weather conditions from the hurricane season are less likely to occur.

7. Proposed Action 7 would establish an annual experimental studies program to test management measures for reducing red snapper discards and increasing fishing opportunities, and cap the maximum total amount of red snapper that could be authorized to use for this purpose at 9,000 fish to balance research objectives with conservation goals.

8. Proposed Action 8 would modify the fishing year to improve consistency in when red snapper catches are accounted for and align the red snapper fishing year with season openings for many other co-occurring snapper-grouper species to further reduce discards and enhance catch accounting.

*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 described in Section 1.7 of this amendment. Other past, current, and future actions that could prevent bycatch and/or improve monitoring of harvest, discards, and discard mortality are further described in Chapter 6 (Cumulative Effects).

# F.13. Conclusion

This Bycatch Practicability Analysis evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality of South Atlantic red snapper. In summary, the suite of actions proposed in Amendment 59 are believed to best achieve the purpose and need for this action, consistent with the Magnuson-Stevens Act and its National Standards, to 1) end and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress; and 2) reduce dead discards of red snapper to provide additional opportunities for retaining red snapper and further minimize bycatch consistent with National Standard 9 (bycatch) mandates, at the least cost in the context of reduced opportunities to harvest co-occurring snapper-grouper species.

# Appendix G. Regulatory Impact Review

## G.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 Amendment, 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 Executive Order (E.O.) 12866. In addition, the RIR provides some information that may be used in conducting an analysis of the effects on small entities pursuant to the Regulatory Flexibility Act (RFA). This RIR analyzes the effects this regulatory action would be expected to have on the recreational and commercial sectors of the red snapper fishery.

## G.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.

## G.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 amendment and is incorporated herein by reference.

## G.4 Effects of Management Measures

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 direct economic effects of the preferred alternatives relative to the No Action alternative (i.e., the status quo). The indirect economic effects of the proposed action (management measures with no direct effects on resource harvest or use) on fishery participants, associated industries, or communities are detailed in Section 4.1.2.

**Action 1. Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing**

Redefining the $F_{MSY}$ proxy for the overfishing of South Atlantic red snapper would not directly alter the current harvest or use of the resource. Specification of $F_{MSY}$ establishes a benchmark when evaluating the status of a particular stock. Since there would be no direct effects on resource harvest or use, there would be no direct economic effects from **Action 1's Preferred Alternative 2** on fishery participants, associated industries, or communities. However, benefits or impacts may result indirectly from the $F_{MSY}$ proxy if changes in catch limits or management regulations occur.

**Action 2. Modify the Acceptable Biological Catch for Red Snapper**

The revised ABC being considered in **Action 2 Preferred Alternative 2** would modify the ABC for red snapper to equal to 92% of OFL = 509,000 fish (71,000 landed fish + 438,000 dead discards). While implemented ACLs directly affect the total amount of fish available for harvest, an ABC controls the overall ACL amount, thus indirectly affecting the total amount of fish available for harvest. As such, modifying the ABC for red snapper to equal 509,000 fish would significantly expand harvest opportunities from the status quo, largely due to the increase in the ACL. As such, the anticipated indirect economic effects of **Action 2 Preferred Alternative 2** would be an increase overall to net economic benefits for all sectors

**Action 3. Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits.**

In general, ACLs that allow more fish to be landed can result in increased net economic benefits. The revised dead discard reduction amounts being considered in **Action 3, Preferred Alternative 3** would increase the total landings of South Atlantic red snapper overall. Thus, **Action 3, Preferred Alternative 3** is expected to increase harvest opportunities, and is projected to increase the landings of red snapper for both the commercial and recreational sectors. As such, an increase in net economic benefits would be expected from **Action 3, Preferred Alternative 3.**

Commercial Sector

**Preferred Alternative 3** would result in an ACL=346,000 whole weight (314,545 pounds gw) for 2024. The increase of potential landings under **Preferred Alternative 3** occurring from an increase in the sector ACL would result in an increase of revenue and net economic benefits, represented by producer surplus (PS), for commercial vessels. When compared to **Alternative 1 (No Action)**, **Preferred Alternative 3** would result in an estimated $354,534 increase of PS in the 2025 fishing year (2023 $).

Estimates of net revenue 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 increase because of **Preferred Alternative 3.** Since red snapper make up approximately less than 1% 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 3** would result in a recreational sector ACL=85,000 fish, or an increase of 187% from **Alternative 1 (No Action)**. The expected increase of landings under **Preferred Alternative 3** occurring from an increase to the recreational sector ACL would result in an increase of net economic benefits. To generate lower bound estimates for the change in net economic benefits for the recreational sector, it is assumed the additional red snapper harvested under the increased ACLs would occur on existing private and for-hire angler trips, with no overall change in effort. A consumer surplus (CS) estimate of $100.98 for the second red snapper kept on a recreational trip is used (2023$; Section 3.3.2) to estimate the value of the additional harvested fish. This CS estimate is closest to the current retention limit of one fish per person when the season is open. Here, 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. Based on the assumptions used to generate these lower bound estimates, there would be no change in for-hire business PS and net economic benefits would be based entirely on the CS received by anglers for the additional fish harvested. Later in this section, we present upper bound estimates of the change in net economic benefits and corresponding assumptions, which do account for an expansion in effort. When compared to **Alternative 1 (No Action)**, and assuming no change in effort, **Preferred Alternative 3** would result in an estimated increase in CS of $5,588,976 in the 2025 fishing year (2023 $).

It is likely that the increased ACLs considered under **Preferred Alternative 3** would result in an expansion of overall private and for-hire angler trips. NMFS does not possess the data to precisely quantify this change in effort. An upper bound estimate of the potential change in total net economic benefits from the **Alternatives** in **Action 3** can be calculated by assuming each additional red snapper harvested under the increased ACLs would occur on an entirely new private or for-hire angler trip and then applying trip-level CS and PS estimates. This estimate will ultimately yield higher total changes to net economic benefits because the CS per trip estimate is over double the value of the CS per fish estimate and because PS is included for for-hire businesses. **Preferred Alternative 3** would increase net economic benefits by $17,003,148 in the 2025 fishing year compared to **Alternative 1 (No Action)** (2023$) utilizing this methodology.

**Action 4. Establish New Management Measures to Achieve Dead Discard Targets**

**Preferred Alternative 3** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24% from the baseline. **Preferred Sub-alternative 3b** would establish a discard reduction closed area and season for the recreational sector. During December 1 through February 28/29 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear. The areas are defined by the coordinates shown in Tables 2.1.7, and Figure 2.1.4. **Alternatives 2a**, **2b**, **3a**, **4a**, and **4b** consider other time and area closures as described in **Section 2.4**.

To estimate the changes in net economic benefits resulting from the discard reduction areas and seasons considered in **Action 4**, SRHS snapper grouper trip data from 2019 to 2023 were analyzed spatially in ArcGIS. Latitude and longitude coordinates from recorded SRHS trips were used to identify the mean annual number of headboat trips occurring in the respective discard reduction areas and seasons within each of the **Sub-Alternatives** (Table 4.4.2.1). Additionally, SRHS trip latitude data were used to generate a latitudinal bin for each discard reduction area and season, enabling the estimation of a ratio of the total number of headboat trips in each respective discard reduction area and season relative to the total number of headboat trips in those latitudinal ranges and for those seasons.

MRIP FES-based snapper grouper directed effort estimates for 2019-2023 (EEZ only) were then spatially joined by their corresponding site intercept latitudes to the latitudinal range of the closure coordinates, during the proposed closure periods for each alternative. The assumption is that these trips occur due east of where they were intercepted. This step provided an estimate of the mean annual number of charter and private vessel trips in the latitudinal bins associated with each closed area and season for each alternative.

The headboat trip ratios for the respective discard reduction areas and seasons, as described above, were then multiplied by the number of charter and private vessel trips in each latitudinal bin during the respective closed seasons to apportion them to the specific discard reduction areas and seasons associated with each **Action 4** (Table 4.4.2.2). This assumes that headboat spatial fishing patterns are similar to those of charter and private vessels.

Finally, the total number of identified trips (by mode) occurring in the discard reduction areas and seasons for each of the **Action 4 Alternatives** were multiplied by the appropriate CS and PS values (Section 3.3.2) to estimate the economic effects on anglers and for-hire businesses (Table 4.4.2.3 and Table 4.4.2.4). It is assumed that all trips within the closed areas and season for each alternative would be cancelled with no effort redistribution to other times, areas, or activities. If this assumption does not hold, then the effects may be lessened. Each headboat angler trip is estimated to be worth $88 in PS and each charter angler trip is estimated to be worth $138 in PS to headboat and charter businesses, respectively. Each angler is expected to receive $210 in CS per trip (Carter, D. Personal Communication 2024) on charter vessels, headboats, or private vessels. **Preferred Sub-Alternative 3** would result in a total change in net economic benefits for the recreational sector of approximately -$19.2 million (2023 $).

**Action 5. Modify Commercial Management Measures to Further Optimize Yield**
**Sub-Action 5a. Increase the Commercial Trip Limit for Red Snapper**
Based on the magnitude of the commercial red snapper ACL being considered from **Action 3**, it is estimated that **Action 5a, Preferred Alternative 3** and the other alternatives would all allow the commercial sector to harvest the totality of its allotted ACL. Therefore, changes in aggregate annual ex-vessel revenues would not be expected to result from these alternatives. In general, a less restrictive commercial trip limit may, however, increase economic efficiency on trips, which would lead to an increase in PS.

**Sub-Action 5b. Modify the commercial fishing season for red snapper**
NMFS does not possess the data to directly determine whether any precise differences in economic benefits are expected from when the season starts on any of these three alternative dates. **Preferred Alternative 2** would modify the start of the commercial fishing season to May 1 beginning in 2026. May 1st aligns with opening of the commercial shallow-water grouper season, which could lead to an increase in PS on trips that target shallow-water grouper early in the season due to increased economic trip efficiency from landing more red snapper and shallow-water grouper jointly. **Preferred Alternative 2** may also aid in reducing dead discards of red snapper in some areas during the shallow-water grouper season, resulting in faster rebuilding, higher future catch rates, and higher indirect economic benefits. **Preferred Alternative 2** may also aid in the rebuilding of South Atlantic red snapper by allowing commercial harvest of red snapper prior to their peak spawning season of July and August.

**Action 6. Modify recreational fishing season for red snapper to further increase fishing opportunities/optimize yield.**

Estimating the differences in net economic benefits depending on whether the season starts on any of these three alternative dates is not possible. Information, such as whether CS values vary on a seasonal basis, is not available for use in estimating the differences in net economic benefits in the **Alternatives** of **Action 6**. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the net economic benefits may differ between the alternatives. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4 relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season in July or August (**Preferred Alternatives 4**) would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort. Additional for-hire trips would generate additional PS.

**Action 7. Establish an Annual Experimental Studies Program**

The amount of red snapper set aside for an Annual Experimental Studies program will be taken from the buffer between the ABC and the ACL, as opposed to the ACL itself. Therefore,

**Preferred Alternative 3** will not change the amount of RS available for harvest by either sector because neither sector's ACL will be modified from the status quo. Research participants, however, will get to land those fish and gain the corresponding CS or PS, depending on sector. Using a CS estimate of $100.98 (Section 3.3.2) for a second red snapper kept on a recreational trip, the estimated increase to net economic benefits from **Preferred Alternative 3** is $908,820.

**Action 8. Modify the fishing year for red snapper**

**Preferred Alternative 2's** start date would match the earliest proposed start date of the commercial fishing season of May 1 for red snapper (Sub-Action 5b) and would precede the earliest proposed start dates of the recreational fishing season of the second Friday or Saturday in June (Action 6). Assuming that future landings would be similar to recent landings, **Preferred Alternative 2** would be expected to provide the greatest social benefits South Atlantic-wide for commercial fishermen, for-hire businesses, and recreational anglers.

# 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 2023 dollars and include:

| | |
|---|---|
| NMFS administrative costs of document preparation, meetings, and review | $183,537 |
| TOTAL | $183,537 |

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 amendment and the rulemaking process would be incurred prior to the effective date of the final rule implementing this amendment.

# Net Benefits of Regulatory Action

It is important to specify the time period being considered when evaluating benefits and costs. According to OMB's FAQs regarding Circular A-4[16], "When choosing the appropriate time horizon for estimating costs and benefits, agencies should consider how long the regulation being analyzed is likely to have resulting effects. The time horizon begins when the regulatory action is implemented and ends when those effects are expected to cease. Ideally, analysis should include all future costs and benefits. Here as elsewhere, however, a 'rule of reason' is appropriate, and the agency should consider for how long it can reasonably predict the future and limit its analysis

[16] https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf

to this time period. Net economic benefits from the recreational and commercial sectors combined from the **Preferred Alternatives**, would be expected to decrease by $12,326,726 in 2025 using lower bound estimates for **Action 3**. Over a three-year timeframe of 2025-2027, the expected change in the discounted net present value of economic benefits to both sectors would be -$36,259,816 using a 2% discount rate[17]. This analysis uses a three-year timeframe based on the SEDAR timeline for when the OFL and ABC values for red snapper will be analyzed again. The combination of **Preferred Alternatives** would be expected to decrease net economic benefits from the recreational and commercial sectors by $519,021 in 2025 using upper bound estimates for **Action 3**. Over a three-year timeframe of 2025-2027, the expected change in the discounted net present value of economic benefits to both sectors would be -$1,526,732 using a 2% discount rate[18].

The analyses of the changes in economic benefits indicates an increase of $354,534 in net economic benefits to the commercial sector, and a possible decrease of $12,681,260 or $873,555 in net economic benefits to the recreational sector. Together, the total expected change in net economic benefits for both sectors is estimated to be -$12,326,726 to -$519,021(2023 $) in the 2025 fishing year. The estimated public costs resulting from the regulation are $183,537 (2023$). Based on the quantified economic effects, this regulatory action is expected to decrease annual net economic benefits to the Nation by $12,510,263 to $702,558 (2023$).

## Determination of Significant Regulatory Action

Pursuant to 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 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 (OIRA) in each case. Based on the information in the Effects of Management Measures section of the RIR, the sum of the costs and benefits resulting from this regulatory action, in absolute terms, is expected to be between $26,214,922 and $38,022,627. Therefore, this action has been determined to not be economically significant for the purposes of E.O. 12866.

[17] https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf
[18] https://www.whitehouse.gov/wp-content/uploads/2023/11/CircularA-4.pdf

# Appendix H. Initial Regulatory Flexibility Analysis (IRFA)

## 1.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic effects of various alternatives contained in the regulatory action and to ensure the agency considers alternatives that minimize the expected economic effects on small entities while meeting the goals and objectives of the applicable statutes (e.g., the Magnuson-Stevens Fishery Conservation and Management Act [Magnuson-Stevens Act]).

With certain exceptions, the RFA requires agencies to conduct an initial regulatory flexibility analysis (IRFA) for each proposed rule. The IRFA is designed to assess the effects various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. An IRFA is primarily conducted to determine whether the proposed regulatory action would have a significant economic effect on a substantial number of small entities. In addition to analyses conducted for the Regulatory Impact Review (RIR), the IRFA provides: 1) a description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed regulatory action; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed regulatory action will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed regulatory action, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; and 6) a description of any significant alternatives to the proposed regulatory action which accomplish the stated objectives of applicable statutes and would minimize any significant economic effects of the proposed regulatory action on small entities.

## 1.2 Statement of the need for, objective of, and legal basis for the proposed action

A discussion of the reasons why action by the agency is being considered is provided in Section 1.2. The purpose is to reduce dead discards of red snapper to end and prevent overfishing and to provide additional opportunities for retaining red snapper and further minimize bycatch consistent with National Standard 1 (optimum yield) and National Standard 9 (bycatch) mandates. The objectives are to end and prevent overfishing of the South Atlantic red snapper stock and maintain adequate rebuilding progress. All monetary estimates in the following analysis are in 2023 dollars. The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) provides the statutory basis for this proposed action.

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

This proposed regulatory action would: (1) revise the $F_{MSY}$ proxy for red snapper overfishing from $F_{30\%SPR}$ being used as the $F_{MSY}$ proxy, to $F_{MSY}$ or a different reasonable proxy based on the best scientific information available consistent with National Standard 2, (2) modify the Acceptable Biological Catch (ABC) for red snapper from 53,000 fish (total removals), to 92% of the overfishing limit which is equal to 509,000 fish (71,000 landed fish + 438,000 dead discards), (3) implement a required red snapper dead discard reduction of 24% from the baseline and use this discard reduction achievement to increase the total red snapper annual catch limit (ACL) from 42,510 fish to 500,000 fish, (4) establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24% by establishing a discard reduction closed area and season for the recreational sector in which from December 1 through February 28/29 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear, (5) increase the commercial trip limit for red snapper from 75 pounds gutted weight to 150 pounds gutted weight, (6) modify the commercial fishing season for red snapper from beginning on the second Monday in July each year to beginning on May 1, taking effect in 2026, (7) modify the recreational fishing season for red snapper from beginning on the second Friday in July, consisting of weekends only (Fridays, Saturdays, and Sundays) unless otherwise specified, to begin on the second Friday in July in 2025 with the season consisting of Saturdays and Sundays only and on the second Saturday in June with the season consisting of Saturdays and Sundays only beginning in 2026, (8) establish an annual experimental studies program, utilizing the amount of red snapper from the buffer between the ABC and the ACL, with an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing

opportunities, and (9) modify the fishing year for South Atlantic red snapper from January 1 through December 31 to May 1 through April 30.

Actions (1) through (3), (8) and (9), above, would apply to all commercial fishing businesses, for-hire fishing businesses, and recreational fishers (anglers) that fish for red snapper in federal waters of the South Atlantic. Actions (4) and (7) would only apply to for-hire fishing businesses and recreational anglers that fish for any snapper grouper species in federal waters of the South Atlantic. Finally, actions (5) and (6) would only apply to commercial fishing businesses. None of the proposed changes would directly apply to federally-permitted dealers. Any change in the supply of red snapper available for purchase by dealers as a result of the proposed regulatory action, and associated economic effects, would be an indirect effect of the proposed regulatory action and would therefore fall outside the scope of the RFA.

A valid South Atlantic snapper grouper unlimited permit (SG1) or 225-lb Trip-limited permit (SG2) is required in order to legally harvest red snapper in the South Atlantic. At the end of 2020, 535 vessels possessed a valid commercial South Atlantic SG1 permit, and 104 vessels possessed a valid SG2 permit. From 2016 through 2020, an average of 660 commercial vessels possessed one of these permits each year. The National Marine Fisheries Service (NMFS) does not possess complete ownership data regarding businesses that harvest South Atlantic red snapper. Therefore, it is not currently feasible to accurately determine affiliations between commercial fishing vessels and the businesses that own them. As a result, for purposes of this analysis, it is assumed each commercial fishing vessel is independently owned by a single business, which is expected to result in an overestimate of the actual number of commercial fishing businesses regulated by this proposed regulatory action. Thus, this analysis assumes that 660 commercial fishing businesses would be regulated by this proposed action.

This proposed action would also regulate and directly affect recreational anglers and for-hire fishing businesses. However, recreational anglers are not considered entities under the RFA, and thus the effects of this action on recreational anglers are not germane to this analysis. A valid charter-headboat (for-hire) South Atlantic snapper grouper vessel permit is required in order for for-hire vessels to legally harvest snapper grouper species in the South Atlantic. NMFS does not possess complete ownership data regarding vessels that hold charter-headboat (for-hire) South Atlantic snapper grouper vessel permits, and thus potentially harvest snappers or groupers. Therefore, it is not currently feasible to accurately determine affiliations between these vessels and the businesses that own them. As a result, for purposes of this analysis, it is assumed each for-hire vessel is independently owned by a single business, which is expected to result in an overestimate of the actual number of for-hire fishing businesses regulated by this proposed rule. Further, NMFS also does not currently possess data on the number of for-hire fishing vessels that harvest or target South Atlantic red snapper or snapper and grouper species in general. However, from 2016 through 2020, the average number of for-hire fishing vessels with charter-headboat South Atlantic snapper grouper vessel permits was 2,059. Because these permits are open access and thus not limited, this analysis assumes that as many as 2,059 for-hire fishing businesses could be directly regulated by this proposed action.

On December 29, 2015, NMFS issued a final rule establishing a small business size standard of $11 million in annual gross receipts (revenue) for all businesses primarily engaged in the commercial fishing industry (NAICS code 11411) for RFA compliance purposes only (80 FR 81194, December 29, 2015). In addition to this gross revenue standard, a business primarily involved in commercial fishing is classified as a small business if it is independently owned and operated, and is not dominant in its field of operations (including its affiliates). From 2019 through 2023, the maximum annual gross revenue earned by a single commercial snapper grouper vessel was approximately $457,418, while the average annual gross revenue for a vessel commercially harvesting red snapper in the South Atlantic was $70,028. Based on this information, all commercial fishing businesses directly regulated by this proposed regulatory action are determined to be small entities for the purpose of this analysis.

For other industries, the Small Business Administration has established size standards for all major industry sectors in the U.S., including for-hire businesses (NAICS code 487210). A business primarily involved in for-hire fishing is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has annual receipts (revenue) not in excess of $14 million for all its affiliated operations worldwide. The average annual gross revenue for a single headboat in the South Atlantic was about $355,255 in 2017 (D. Carter, pers. comm.). According to Holland et al. (2012), average annual charter vessel revenue is slightly more than $146,438, based on data from 2009. Based on this information, all for-hire fishing businesses regulated by this proposed regulatory action are determined to be small businesses for the purpose of this analysis.

## 1.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed action

This proposed regulatory action would not establish any new reporting or record-keeping requirements.

## 1.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed action

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

## 1.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

If implemented, this proposed regulatory action is expected to directly affect 192 of the 660 commercial fishing businesses with South Atlantic snapper grouper permits, or approximately 29% of those commercial fishing businesses. This proposed regulatory action will also potentially affect all of the approximately 2,059 for-hire fishing businesses with valid charter-headboat permits in the South Atlantic snapper grouper fishery. Further, of those 2,059 for-hire fishing businesses, 61 are determined to be headboat vessels from those vessels' participation in the Southeast Regional Headboat Survey. The operating characteristics of headboats versus other for-hire vessels are generally unique to headboats, therefore warrant distinction when determining the significance of the economic impacts of the proposed regulatory action. All regulated commercial and for-hire fishing businesses have been determined, for the purpose of this analysis, to be small entities. Based on this information, the proposed regulatory action is expected to affect a substantial number of small businesses.

Significant economic effects

The outcome of "significant economic impact" can be ascertained by examining two factors: disproportionality and profitability.

**Disproportionality:** Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities directly regulated by this regulatory action have been determined to be small entities. Thus, the issue of disproportionality does not arise in the present case.

**Profitability:** Do the regulations significantly reduce profits for a substantial number of small entities?

A detailed analysis of the economic effects associated with this proposed regulatory action can be found in Chapter 4. The following information summarizes that analysis and additionally, analyzes the effects of this proposed regulatory action on the profitability of small entities.

This proposed regulatory action would revise the $F_{MSY}$ proxy for red snapper overfishing, increase the ABC, establish an annual experimental studies program for red snapper, and modify the red snapper fishing year. All of these proposed changes would not directly constrain harvest or fishing effort and are, therefore, outside the scope of this IRFA.

The average commercial fishing business that harvests South Atlantic red snapper generates $70,028 per year in gross revenue from commercial fishing. Approximately 8% of this average annual gross revenue represents economic profits, or about $5,602 per vessel per year. The proposed action that increases the commercial ACL for South Atlantic red snapper is expected to increase aggregate annual commercial landings of South Atlantic red snapper by an average of 221,185 lbs ww, worth an estimated $1,384,897, beginning in the year of implementation. Given that there are approximately 192 commercial fishing businesses harvesting South Atlantic red snapper each year, the average increase in annual gross revenue per business is approximately

$7,213. Economic profits, therefore, are expected to be increased by approximately 10% on average per commercial fishing business.

This proposed regulatory action would also modify the commercial trip limit to 150 pounds (lbs) gutted weight (gw) from 75 lbs gw. In general, a less restrictive commercial trip limit may increase economic efficiency on commercial fishing trips, which would lead to an increase in profitability for commercial red snapper vessels. However, these effects cannot be quantified with existing data, and individual fishing businesses may experience varying effects based on their operating characteristics and profit maximization strategies.

This proposed regulatory action would also modify the recreational red snapper fishing season from consisting weekends only (Fridays, Saturdays, and Sundays) that begins on the second Friday in July (unless otherwise specified), to either begin on the second Saturday in June consisting of Saturdays and Sundays beginning in 2026 or beginning on the second Saturday in July consisting of Saturdays and Sundays beginning in 2025. Estimating the differences in for-hire vessel's profitability from differences in when the recreational red snapper season begins and specific days of the week is not possible. Information, such as whether net revenue per trip varies on a seasonal basis, is not available for use in estimating the differences profitability with respect to varying recreational season start dates. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the profitability may differ between start dates. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4 relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season in as specified in the proposed regulatory action would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort.

According to Holland, et al. (2012), which contains the most recent estimates of economic returns, including economic profits, average annual gross revenue is approximately $146,438 per charter vessel. D. Carter, Southeast Fisheries Science Center, pers. comm. 2018 recently estimated that average annual gross revenue for South Atlantic headboats were approximately $355,255 (2023$). The proposed action to change the total ACL for South Atlantic red snapper would increase the total amount of red snapper available for harvest by the recreational sector. If current relative sector usage persists, the increase of 55,344 fish to the red snapper ACL would be expected to increase the number of targeted for-hire angler trips. In the long run, factors of production, such as labor and capital, can be used elsewhere in the economy, and so only short-term changes to economic profits are expected. In the South Atlantic, headboat trips take a diverse set of anglers on a single vessel, generally advertising a diverse range of species to be caught. Therefore, economic profits for headboats are estimated separately from charter vessels. The expected increase in directed red snapper recreational angler trips is also expected to increase net revenue for charter and headboat vessels by up to $391,276 and $459,060 respectively per year on average. The estimates will depend on how many additional for-hire trips are booked as a result of the increased red snapper ACL and season length. Given that there are approximately 2,059 charter fishing businesses and

61 headboat businesses that are eligible to recreationally harvest South Atlantic red snapper each year, the average increase in annual net revenue per charter and headboat business is approximately $190 and $7,525, respectively. Because not all permitted charter vessels may be active, the change in net revenue per charter vessel may be greater than presented here. This proposed regulatory action would also establish a discard reduction area and season, which would be expected to decrease directed snapper grouper recreational angler trips during the period from December 1 through the end of February in the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N). These estimated decreases in directed snapper grouper charter and headboat trips would result in a decrease in annual net revenue of up to $408,043 and $410,859, respectively. The average decrease in annual net revenue per business from lost recreational for-hire fishing trips would be approximately $200 for charter vessels and $6,689 for headboats. Again, the change in average net revenue for active charter vessels may be greater than what is shown here for all permitted vessels. When the loss in net revenue from forgone snapper grouper trips associated with the proposed recreational area and season closure is combined with the increased net revenue from the additional red snapper trips during the open season, the overall change in annual net revenue for charter and headboat businesses would equate to -$19,583 and $51,017 (-$10 or $836 per vessel), respectively.

This proposed regulatory action would also modify the recreational red snapper fishing season from consisting of weekends only (Fridays, Saturdays, and Sundays) that begins on the second Friday in July (unless otherwise specified), to either begin on the second Saturday in June consisting of Saturdays and Sundays beginning in 2026 or beginning on the second Saturday in July consisting of Saturdays and Sundays beginning in 2025. Estimating the differences in for-hire vessels' profitability from differences in when the recreational red snapper season begins and specific days of the week is not possible. Information, such as whether net revenue per trip varies on a seasonal basis, is not available for use in estimating the differences in profitability with respect to varying recreational season start dates. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the profitability may differ between start dates. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in July and August wave 4 relative to other wave periods during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season as specified in the proposed rule would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort.

## 1.7 Description of significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

Three alternatives, including the status quo, were considered for the proposed action to: increase and set the total South Atlantic red snapper ACL equal to 500,000 fish and establish a required

dead discard reduction amount of 24% from the baseline, with the commercial and recreational South Atlantic red snapper sector ACLs set equal 346,000 lbs whole weight (ww) and 85,000 fish respectively. The status quo alternative would have retained the total ACL equal to 42,510 fish, with a commercial ACL equal to 124,815 lbs ww, and a recreational ACL of 29,656 fish, and with the total ACL based on landings only. The status quo total ACL of 42,510 fish was specified in the final rule for Amendment 43 to the Snapper-Grouper FMP and is based on the landings observed during the limited red snapper season in 2014. Under the status quo ACL, no changes in landings, effort, or direct economic effects would be expected on any small entities. The status quo ACL is based on outdated data that no longer represents the best scientific information available, and thus was not selected as preferred.

The second alternative would have reduced dead discards 16% from the baseline and used this discard reduction achievement to increase the total ACL to 505,000 fish. The commercial and recreational South Atlantic red snapper sector ACLs would equal 300,000 lbs ww and 64,000 fish respectively. This alternative was not selected because, although it requires a smaller discard reduction than the proposed ACL, it results in smaller direct and indirect social and economic benefits from the harvest of additional red snapper. The second alternative would have resulted in $319,700 less total ex-vessel revenue for the commercial sector and $210,000 less total net revenue for the for-hire sector compared to the proposed regulatory action.

The third alternative would have reduced dead discards 32% from the baseline and used this discard reduction achievement to increase the total ACL to 496,000. The commercial and recreational South Atlantic red snapper sector ACLs would equal 390,000 pounds whole weight and 105,000 fish respectively. These sector ACLs, are higher than those in the proposed regulatory action, and would have resulted in $305,800 more total ex-vessel revenue for the commercial sector and $200,079 more total net revenue for the for-hire sector compared to a the proposed regulatory action. This alternative was not selected because it would require a larger reduction in dead discards than the proposed regulatory action. A larger discard reduction percentage would necessitate more severe area and time closures.

Six alternatives, including the status quo, were considered for the proposed action to: establish a discard reduction season for the recreational sector such that during December 1 through February 28/29 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear. The status quo alternative would not have established new management measures for the recreational sector to achieve dead discard targets for red snapper. Therefore, no changes in directed effort or direct economic effects would be expected on any small entities. This alterative was not selected because this proposed regulatory action requires a discard reduction of 24% from the baseline in order to achieve the proposed ACL.

The second alternative would have established two discard reduction areas for the recreational sector such that in these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess, a species in the South Atlantic snapper-grouper fishery management unit from the

exclusive economic zone that were harvested with hook-and-line fishing gear. The first area was to be in the exclusive economic zone off Jacksonville, Florida, between 30.3 and 30.7° N latitudes and between the approximate depths of 80 to 150 ft. The second area was to be in the exclusive economic zone off Cape Canaveral, Florida, between 28.3 and 28.7° N latitudes and between the approximate depths of 80 to 150 ft. The difference in lost annual trip revenue for the for-hire vessels resulting from the area closures of the second alternative compared to the proposed regulatory action is an additional $1.43 million in lost net revenue annually. This alternative was not selected because this alternative would result in less net economic benefits through shorter red snapper seasons and lower overall ACL than the proposed regulatory action.

The third alternative would have established a discard reduction season for the recreational sector. During January 1 through February 14 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear. The difference in annual net revenue for the for-hire vessels resulting from the area closures of the second alternative compared to the proposed regulatory action is a gain of $442,677 annually in net revenue for recreational fishing for-hire businesses. This alternative was not selected because this alternative would provide fewer opportunities to harvest red snapper through shorter seasons and a lower overall recreational red snapper ACL than the proposed regulatory action. This alternative was also not selected because it would provide less indirect benefits to co-occurring snapper-grouper species, many of which are overfished, undergoing overfishing, or showing declining trends in abundance.

The fourth alternative would have established three discard reduction areas for the recreational sector such that in these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess, a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear. The first area is in the exclusive economic zone off Jacksonville, Florida between 30.3° N and 30.7° N and between the approximate depths of 80 to 150 ft. The second area is in the exclusive economic zone off St. Augustine, Florida between 29.5° N and 29.9° N and between the approximate depths of 80 to 150 ft. The third area is in the exclusive economic zone off Cape Canaveral, Florida, between 28.3° N and 28.7° N latitudes and between the approximate depths of 80 to 150 ft. The difference in lost annual trip revenue for the for-hire vessels resulting from the area closures of the fourth alternative compared to the proposed regulatory action is an additional loss of $2.07 million annually in net revenue for recreational fishing for-hire businesses. This alternative was not selected because this alternative would result in less net economic benefits than the temporal closures in the proposed regulatory action.

The fifth alternative would have established four discard reduction areas for the recreational sector such that in these areas, no private recreational or for-hire fisherman may fish for, harvest, or possess, a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone that were harvested with hook-and-line fishing gear. The first area is in the exclusive economic zone off Jacksonville, Florida between 30.4° N and 30.7° N and between

the approximate depths of 70 to 110 ft. The second area is in the exclusive economic zone off St. Augustine, Florida between 29.7° N and 29.9° N and between the approximate depths of 70 to 110 ft. The third area is in the exclusive economic zone off Daytona Beach, Florida between 29.1° N and 29.3° N and between the approximate depths of 70 to 110 ft. The fourth area is in the exclusive economic zone off Cape Canaveral, Florida between 28.4° N and 28.7° N and between the approximate depths of 70 to 110 ft. The difference in lost annual net revenue for the for-hire vessels resulting from the area closures of the second alternative compared to the proposed regulatory action is an additional loss of $2.77 million annually in net revenue for recreational fishing for-hire businesses. This alternative was not selected because this alternative would result in less net economic benefits than the temporal closures in the proposed regulatory action.

The sixth alternative would have established both a discard reduction season for the entire South Atlantic exclusive economic zone and a separate year round discard reduction area for the recreational sector. During January 1 through February 28/29 each year, no private recreational or for-hire fishermen would be allowed to fish for, harvest, or possess a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone. Additionally, in the year-round closed area, no private recreational or for-hire fisherman would be able to fish for, harvest, or possess a species in the South Atlantic snapper-grouper fishery management unit from the exclusive economic zone off Jacksonville, Florida between 30.3° N and 30.7° N and between the approximate depths of 80 to 150 ft that were harvested with hook-and-line fishing gear. The difference in lost annual net revenue for the for-hire vessels resulting from the area closures of the second alternative compared to the proposed regulatory action is an additional loss of $548,728 annually in revenue for recreational fishing for-hire businesses. This alternative was not selected because this alternative would result in less net economic benefits than the temporal closures in the proposed regulatory action.

Three alternatives, including the status quo, were considered for the proposed action to: increase the commercial trip limit for South Atlantic red snapper to 150 pounds gutted weight. The status quo alternative would have retained the current commercial trip limit for South Atlantic red snapper of 75 pounds gutted weight. This alternative was not selected because with the increase to the commercial ACL resulting from this proposed regulatory action, it would reduce trip economic efficiency. This alternative was also not selected because higher trip limits from the proposed regulatory action are expected to reduce dead discards of red snapper during the open commercial red snapper season, especially for trips that are longer in duration and trips that target co-occurring species with red snapper as well. The second alternative would have modified the commercial trip limit to be 100 pounds gutted weight. This alternative was not selected for similar reasons as to why the status quo alternative was not selected. The third alternative would have modified the commercial trip limit to be 200 pounds gutted weight. This alternative was not selected because it would have resulted in a shorter season relative to the proposed regulatory action. A shorter commercial season could lead to increased out-of-season regulatory discards, although overall discards during the season would be reduced.

Two alternatives, including the status quo, were considered for the proposed action to: modify the start of the commercial fishing season to May 1 beginning in 2026. The status quo alternative would have retained the commercial fishing season to begin each year on the second Monday in July. This alternative was not selected because it would not align with the May 1 opening of shallow water grouper, which is a co-occurring species landed jointly with red snapper. Not aligning the season to start concurrently with the start of shallow water grouper reduces economic efficiency for red snapper trips, and increases the likelihood of red snapper discards as red snapper would not be available for commercial retention. This alternative was also not selected because in comparison to the proposed regulatory action, this alternative does not provide the opportunity for as many commercial trips to occur in typically favorable weather conditions prior to the peak of hurricane season and fall/winter cold fronts. The second alternative would have modified the start of the commercial fishing season to June 1 beginning in 2026. This alternative was also not selected for similar reasons as to why the status quo alternative was not selected.

Two alternatives, including the status quo, were considered for the proposed action to modify the recreational fishing season to begin on the second Saturday in June. The season would consist of Saturdays and Sunday's beginning in 2026 or the recreational fishing season to would begin on the second Saturday in July and consist of Saturdays and Sundays beginning in 2025. The status quo alternative would have retained the recreational season consisting of weekends only (Fridays, Saturdays, and Sundays) beginning on the second Friday in July, unless otherwise specified. This alternative was not selected because it would limit the recreational fishing season to fewer weekends of fishing compared to the proposed regulatory action. Further, the status quo included Friday as a fishing day in the season. This would limit opportunities of recreational anglers who work typical weekday work schedules, increasing overall opportunity costs of recreational red snapper anglers. The second alternative would have modified the recreational fishing season to begin on the second Saturday in June 2026 consisting of weekends only (Fridays, Saturdays, and Sundays). This alternative was also not selected for similar reasons as to why the status quo alternative was not selected.

# Appendix I. Fishery Impact Statement

The Magnuson-Stevens Fishery Conservation and Management Act requires a Fishery Impact Statement (FIS) be prepared for all amendments to fishery management plans (FMP). The FIS contains an assessment of the expected and potential biological, economic, and social effects of the conservation and management measures on: 1) fishery participants and their communities; 2) participants in the fisheries conducted in adjacent areas under the authority of another Council; and 3) the safety of human life at sea. Detailed discussion of the expected effects for all proposed changes is provided in Chapters 3 and 4. The FIS provides a summary of these effects.

**Actions Contained in Amendment 59 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Amendment 59)**

**Action 1.** Revise the Fishing Mortality at Maximum Sustainable Yield (FMSY) Proxy for Red Snapper Overfishing

**Preferred Alternative 2.** Overfishing occurs when current $F > F_{MSY}$ or a reasonable proxy, based on the best scientific information available consistent with National Standard 2.

**Action 2.** Modify the Acceptable Biological Catch for Red Snapper

**Preferred Alternative 2.** Modify the acceptable biological catch to equal to 509,000 fish (71,000 landed fish + 438,000 dead discards).

**Action 3.** Reduce Dead Discards and Increase the Red Snapper Annual Catch Limits

**Preferred Alternative 3.** Reduce dead discards 24% from the baseline and use this discard reduction achievement to increase the total annual catch limit to **500,000** or 459,000 **fish** based on the acceptable biological catch selected in Action 2.

**Action 4.** Establish New Management Measures to Achieve Dead Discard Targets

**Preferred Alternative 3.** Establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24%.

In the areas described in Sub-Alternative 3b, the prohibition on possession of snapper-grouper species by hook-and-line fishing gear (including trolling gear) does not apply to a person aboard a vessel that is in transit through the areas with hook-and-line fishing gear (including trolling gear) appropriately stowed. Transit means direct, non-stop progression through the area. Fishing gear appropriately stowed means terminal gear (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, handline, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck. This includes trolling activity when in possession of snapper-grouper species. Hook-and-line gear means one or more hooks attached to one or more lines (can include a troll).

**Preferred Sub-alternative 3b**. Establish a discard reduction season for the recreational sector. During December 1 through the end of February each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30°42.0' N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear (including trolling gear). The area is defined by the coordinates shown in Table 2.1.7 and Figure 2.1.4.

**Table 2.1.7.** Boundary coordinates for the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 3b.

| Point | N. Latitude (degrees, minutes) | W. Longitude (degrees, minutes) |
|---|---|---|
| 1 | 30°42.0' N | State/Federal boundary |
| 2 | 30°42.0' N | EEZ boundary |
| 3 | 28°00.0' N | EEZ boundary |
| 4 | 28°00.0' N | State/Federal boundary |

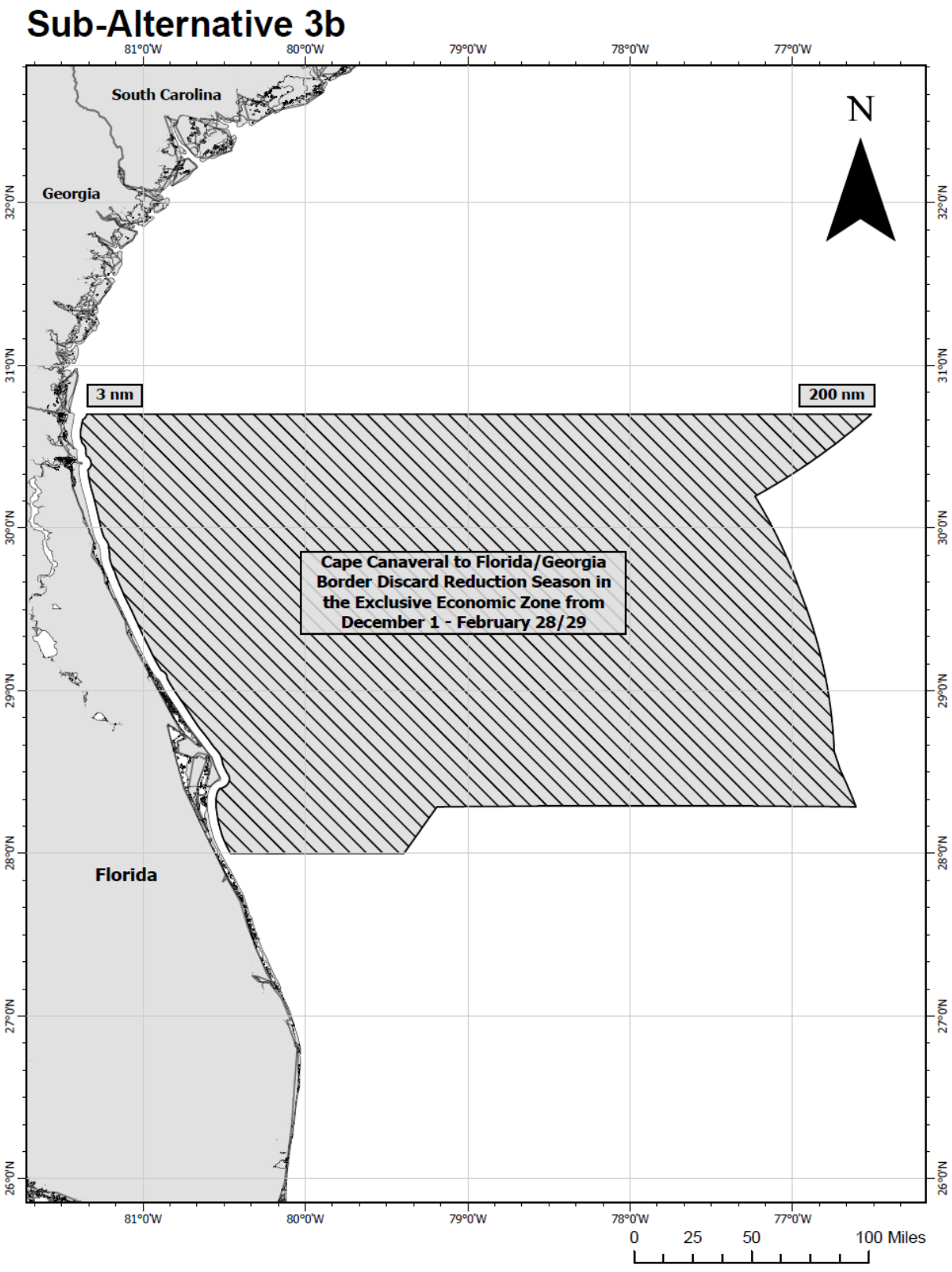
Sub-Alternative 3b
81°0'W
80°0'W
79°0'W
78°0'W
77°0'W
South Carolina
Georgia
N
32°0'N
31°0'N
30°0'N
29°0'N
28°0'N
27°0'N
26°0'N
3 nm
200 nm
Cape Canaveral to Florida/Georgia Border Discard Reduction Season in the Exclusive Economic Zone from December 1 - February 28/29
Florida
0
25
50
100 Miles

**Figure 2.1.4.** The location of the discard reduction season in the exclusive economic zone between 28° N and the Florida/Georgia border (30°42.0' N) in Sub-alternative 3b.

**Action 5.** Modify Commercial Management Measures to Further Optimize Yield

**Sub-Action 5a.** Increase the Commercial Trip Limit for Red Snapper

**Preferred Alternative 3.** Increase the commercial trip limit to 150 pounds gutted weight.

**Sub-Action 5b.** Modify the Commercial Fishing Season for Red Snapper

**Preferred Alternative 2.** Modify the start of the commercial fishing season to May 1 beginning in 2026.

**Action 6.** Modify the Recreational Fishing Season for Red Snapper to Further Increase Fishing Opportunities/Optimize Yield

**Preferred Alternative 4.** Modify the recreational fishing season to begin on the second Saturday in July. The season would consist of Saturdays and Sundays beginning in 2025. Note: For Alternatives 2 through 4 above, 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). This change would allow the NMFS Southeast Regional Office Regional Administrator (RA) the authority to modify the opening and closing dates of the recreational fishing season or reopen the recreational fishing season at a later date, including off a specific South Atlantic state, if a small craft advisory, or worse weather conditions, exists in the South Atlantic exclusive economic zone off specific South Atlantic states, or is projected to exist during the recreational red snapper fishing season. This proposed action may help minimize the adverse effects to fishermen's safety from a short recreational season.

**Action 7.** Establish an Annual Experimental Studies Program

**Preferred Alternative 3.** Establish an annual process for requesting, evaluating, and approving proposals for innovative projects intended to reduce red snapper discards and increase fishing opportunities. Project proposals would be evaluated based on a fixed schedule to be developed by the National Marine Fisheries Service. Approved projects would authorize a total or combined amount of red snapper not to exceed 10,000 fish or the amount of the difference between the acceptable biological catch and total annual catch limit chosen in Actions 2 and 3, whichever is less.

**Action 8.** Modify the Fishing Year for Red Snapper

**Preferred Alternative 2:** Modify the South Atlantic red snapper fishing year to be May 1 through April 30.

**Assessment of Biological Effects**

The preferred alternatives for the actions in Amendment 59 are expected to end and prevent overfishing of South Atlantic red snapper and maintain adequate rebuilding progress. The preferred alternatives are based on the results of the latest stock assessment for red snapper in 2024 (Southeast Data, Assessment, and Review 73 Update Assessment, [SEDAR 73 Update Assessment, 2024]) (https://sedarweb.org/assessments/sedar-73/), and represent the best

scientific information available (BSIA). The preferred alternatives are expected to yield positive or neutral biological benefits without causing overfishing of the red snapper stock. Updating the MSY overfishing definition would end overfishing of red snapper while allowing the rebuilding of the stock to continue. The preferred alternative for the acceptable biological catch (ABC) for red snapper includes a buffer from the overfishing limit, and the total annual catch limit (ACL), and the sector ACLs include further reductions from the ABC and are based on reductions in dead discards. The preferred alternative for a dead discard reduction season is expected to yield positive biological benefits for other snapper-grouper species that co-occur with red snapper. Management measures to modify the commercial trip limit, commercial and recreational fishing seasons, and the fishing year for red snapper, are expected to extend the fishing opportunities to both the commercial and recreational fishers, without negatively affecting the red snapper stock because of existing accountability measures. Establishing an annual experimental studies program would allow a limited number of red snapper for use to test new strategies to reduce dead discards. The preferred alternatives would not be expected to result in any biological effects, positive or negative, on co-occurring species (Bycatch Practicability Analysis, Appendix F). The proposed actions would not change fishing methods for snapper-grouper species in the U.S. exclusive economic zone, and therefore would perpetuate the existing level of risk for interactions between Endangered Species Act-listed species, their critical habitat, and the fishery. Thus, there is likely to be no additional effects, positive or negative, to protected species or their critical habitat from the actions.

**Assessment of Economic Effects**

The revised $F_{MSY}$ proxy being considered in **Action 1** establishes a benchmark in the process of evaluating the stock status of South Atlantic red snapper. Redefining the $F_{MSY}$ proxy for the overfishing of South Atlantic red snapper would not directly alter the current harvest or use of the resource. Specification of $F_{MSY}$ of a particular stock. Since there would be no direct effects on resource harvest or use, there would be no direct economic effects from **Action 1** on fishery participants, associated industries, or communities. However, benefits or impacts may result indirectly from the $F_{MSY}$ proxy if changes in catch limits or management regulations occur.

The revised ABC being considered in **Action 2** controls the overall ACL amount, thus indirectly affecting the total amount of fish available for harvest. As such, modifying the ABC for red snapper to equal 509,000 fish would significantly expand harvest opportunities from the status quo, largely due to the increase in the ACL. As such, the anticipated indirect economic effects of **Action 2** would be an increase overall to net economic benefits for all sectors**.** In general, ACLs that allow more fish to be landed can result in increased net economic benefits.

The revised dead discard reduction amounts being considered in **Action 3** would increase the total landings of SA red snapper overall. Thus, **Action 3** is expected to increase harvest opportunities, and is projected to increase the landings of red snapper for both the commercial and recreational sectors. As such, an increase in net economic benefits would be expected from **Action 3.** It is likely that the increased ACLs considered under **Action 3** would result in an expansion of overall private and for-hire angler trips. Thus, **Action 3** is expected to increase

directed effort, and is projected to increase the number for directed for-hire red snapper recreational fishing trips.

**Action 4** would establish new management measures for the recreational sector to reduce dead discards of red snapper by at least 24%. Further it would establish a discard reduction closed area and season for the recreational sector**.** The discard reduction areas and season considered in **Action 4** specifies that from December 1 through February 28/29 each year, no private recreational or for-hire fishermen may fish for, harvest, or possess in or from the South Atlantic exclusive economic zone in an area between 28° N and the Florida/Georgia border (30.7° N) any species in the Snapper-Grouper Fishery Management Unit with hook-and-line fishing gear. **Action 4** would result in a total change in net economic benefits for the recreational sector of approximately -$19.2 million (2023 $).

Based on the magnitude of the commercial red snapper ACL being considered from **Action 3**, it is estimated that **Action 5a** would all allow the commercial sector to harvest the totality of its allotted ACL. Therefore, changes in aggregate annual ex-vessel revenues would not be expected to result from these alternatives. In general, a less restrictive commercial trip limit may, however, increase economic efficiency on trips, which would lead to an increase in PS.

NMFS does not possess the data to directly determine whether any precise differences in economic benefits are expected from when the season starts on any of these three alternative dates of **Action 5b**. However, May 1st aligns with opening of the commercial shallow-water grouper season, which could lead to an increase in PS on trips that target shallow-water grouper early in the season due to increased economic trip efficiency from landing more red snapper and shallow-water grouper jointly. **Action 5b** may also aid in reducing dead discards of red snapper in some areas during the shallow-water grouper season, resulting in faster rebuilding, higher future catch rates, and higher indirect economic benefits.

Estimating the differences in net economic benefits of modifying the recreational fishing season in **Action 6** is not possible. Information, such as whether consumer surplus (CS) values vary on a seasonal basis, is not available for use in estimating the differences in net economic benefits related to **Action 6**. Information on recreational red snapper catch, catch effort, and target effort can aid in determining if the net economic benefits may differ between the alternatives. Specifically, catch, catch effort, and target effort are higher in July and August (wave 4) than in June (wave 3). In fact, target effort is highest in wave 4 relative to other waves during the year. Assuming catch and catch effort are reflective of when red snapper are relatively more available to the recreational sector, and that target effort reflects when red snapper are relatively most valued, then opening the season as specified in **Action 6** would generate the greatest economic benefits to the recreational sector through increased demand for for-hire trips if opened during the peak of the target effort. Additional for-hire trips would generate additional producer surplus (PS).

The amount of red snapper set aside in **Action 7** for an Annual Experimental Studies program will be taken from the buffer between the ABC and the ACL, as opposed to the ACL itself.

Therefore, **Action 7** will not change the amount of red snapper available for harvest by either sector because neither sector's ACL will be modified from the status quo. Research participants, however, will get to land those fish and gain the corresponding CS or PS, depending on sector. The estimated increase to net economic benefits from **Action 7** is $908,820.

**Action 8**'s modifying the fishing year start date would match the earliest proposed start date of the commercial fishing season of May 1 for red snapper (Sub-Action 5b) and would precede the earliest proposed start dates of the recreational fishing season of the second Friday or Saturday in June (Action 6). Assuming that future landings would be similar to recent landings, **Action 8** would be expected to indirectly increase net economic benefits.

**Assessment of the Social Effects**

Redefining the MSY proxy for overfishing for South Atlantic red snapper is not expected to result in changes to how fishing communities utilize red snapper and as such, Action 1 is not expected to have significant or direct social effects. If the methodology accurately represents the stock status, updating values based on are more flexible and responsive approach is expected to result in long-term positive social effects to fishing communities by providing stability in the fishery and providing the resulting benefits from correctly portraying the stock's recovery.

Increasing the ABC for red snapper based on the most recent stock assessment and to include landings and dead discards in Action 2 would result in direct social benefits to commercial and recreational fishermen and for-hire businesses and their associated fishing communities. The absence of a fishing season for red snapper in past years was highly controversial and an increase in allowable catch more closely reflects what fishermen see on the water as far as the current abundance and prevalence of red snapper. An increase in ABC would allow for expanded access to the resource by fishermen.

Using the reduced dead discards of red snapper to increase annual catch limits could generate positive effects among the commercial, for-hire, and private recreational sectors and result in positive direct and indirect social effects through increased access to fishing; however, the action of reducing the discards is expected to generate negative impacts among those recreational portions of the fishery that would experience the proposed closures or restrictions on fishing. As such, Action 3 is expected to have direct positive social effects on commercial fishermen and their associated fishing communities through using dead discards to substantially increase the ACL. Direct positive social effects are also expected for recreational anglers and for-hire businesses and their associated fishing communities through an increased ACL; however portions of the recreational sector could be negatively impacted by the proposed closures or restrictions on fishing needed to meet the specific discard reductions.

The creation of a discard reduction area in the form of an area and time period closure for recreational fishing, harvesting, or possessing of snapper-grouper species using hook-and-line gear can have direct negative social effects on fishermen if fishing grounds are not open to harvest through reduced fishing opportunities and access. Snapper-grouper species are prime

target fish for recreational fishing participants and provide benthic fishing opportunities for for-hire and private recreational participants. Hook-and-line is the gear used by the majority of the snapper-grouper recreational sector and a prohibition on fishing with this gear would impact nearly all recreational snapper-grouper fishing participants who utilize the fishing grounds in a particular area. As such, Action 4 is expected to have negative social effects on private anglers, charter vessels, and headboats and their associated fishing communities in the area adjacent to the discard reduction area, specifically in the counties located in or nearby the latitudes between 28° and the Florida/Georgia border including: Brevard, Clay, Duval, Flagler, Nassau, St. Johns, and Volusia, Florida, and Camden, Georgia. Conversely, long-term social benefits for those throughout the South Atlantic may be associated with the long-term biological benefits of a discard reduction area, such as the benefit to the red snapper stock from a reduction in dead discards and its contribution toward ending overfishing of red snapper, which can contribute to improved fishery resources.

Increasing the commercial trip limit for red snapper in Action 5a could result in direct and indirect effects on commercial fishermen and their associated fishing communities, such as improved profitability of trips and using higher trip limits for bycatch; however more fish entering seafood markets could reduce the price fishermen receive for their catch and result in an earlier closure because the ACL is met faster.

Modifying the commercial fishing season for red snapper in Action 5b is expected to result in tradeoff between benefits for commercial fishermen from an opportunity to fish in more days of good weather and a season that aligns with the shallow-water grouper season, with a preference and business model by some fishermen that relies on red snapper harvest during particular months that come later in the summer.

Modifying the recreational fishing season for red snapper in Action 6 could change the level of access and extent of fishing opportunities for red snapper. As such, Action 6 is expected to result in some positive direct social effects to recreational participants through an increase in access to more people through the extension of the season throughout more weekends consisting of Saturdays and Sundays and an increase in safety at sea through the possibility of a reduction in the number of days impacted by bad weather and the ability to modify or delay the recreational season due to adverse weather.

Establishing an Annual Experimental Studies Program for red snapper in Action 7 could provide information through the approved studies that can lead to better management and future fishing opportunities for commercial and recreational red snapper fishing through the transitioning of dead discards into landed catch. However, the nature and extent of indirect social effects would depend on whether the studies included in the established experimental program would result in better management and/or information that leads to an increased availability of catch of red snapper for fishermen, and whether a reduced buffer results in negative impacts to the red snapper stock because the ABC and/or OFL is exceeded.

Modifying the fishing year for red snapper in Action 8 could include some indirect positive social benefits to fishermen and fishing communities through more closely matching the start dates of the commercial and recreational seasons and more closely matching when the greatest proportions of catch have occurred.

**Assessment of Effects on Safety at Sea**

Amendment 59 is not expected to result in direct impacts to safety at sea.

# Appendix J. Essential Fish Habitat (EFH)

## J-1 EFH and EFH-HAPC Designations and Cooperative Habitat Policy Development

**Summary**
The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires federal fishery management councils and the National Marine Fisheries Service (NMFS) to designate essential fish habitat (EFH) for species managed under federal fishery management plans (FMP). Federal regulations that implement the EFH program encourage fishery management councils and NMFS to designate subsets of EFH to highlight priority areas for conservation and management. These subsets of EFH are called EFH-Habitat Areas of Particular Concern (EFH-HAPCs or HAPCs) and are designated based on ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of the habitat type.

Information supporting EFH and EFH-HAPC designations was updated (pursuant to the EFH Final Rule) in Fishery Ecosystem Plan (FEP) II (SAFMC 2018). Additional detailed information supporting the EFH designations appears in FEP I (SAFMC 2009a), individual FMPs, general information on the EFH provisions of the Magnuson-Stevens Act and its implementing regulations (50 CFR 900 Subparts J and K), and the EFH User Guide (SAFMC 2024).

In addition to implementing regulations to protect habitat from degradation due to fishing activities, the Council cooperates with NMFS to comment on non-fishing projects or policies that may impact EFH. The Council established a Habitat and Ecosystem Advisory Panel (AP) and adopted a comment and policy development process that was recently revised in the Habitat Blueprint (SAFMC 2023). Members of the AP serve as the Council's habitat contacts and professionals in the field and have guided the Council's development of the policy statements. To access these policy statements, refer to the habitat website: https://safmc.net/fishery-management-plans/habitat/

**Habitat Conservation**
The Council has been proactive in advancing habitat conservation through extensive fishing gear restrictions in all Council FMPs and by directly managing habitat and fisheries affecting those habitats through two FMPs: the FMP for Coral, Coral Reefs and Live/Hard Bottom Habitat of the South Atlantic Region (Coral FMP; SAFMC 1984) and the FMP for the *Sargassum* Fishery of the South Atlantic Region (SAFMC 2003).

**Ecosystem Approach to Conservation and Management of Deep-water Ecosystems**
Building on the long-term conservation approach, the Council facilitated the evolution of the Habitat Plan into FEP (SAFMC 2009a) and FEP II (SAFMC 2018) to assemble information on

the physical, biological, and human/institutional context of ecosystems within which fisheries are managed. These two documents were intended to initiate the transition from single species management to Ecosystem-Based Fisheries Management (EBFM) in the region. To support this, the South Atlantic Council adopted broad goals: (1) maintaining or improving ecosystem structure and function; (2) maintaining or improving economic, social, and cultural benefits from resources; and (3) maintaining or improving biological and cultural diversity.

Through Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1;SAFMC 2009b), Comprehensive Ecosystem-Based Amendment 2 (SAFMC 2011), and Coral Amendment 8 (SAFMC 2013), the South Atlantic Council established and expanded deep-water coral HAPCs (CHAPCs) and co-designated them as EFH-HAPCs.

## J-2 EFH for species managed under the Snapper Grouper FMP

EFH for species managed under the Snapper Grouper FMP includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 183 meters (m) (but to at least 610 m for wreckfish) where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for larval survival and growth, up to and including settlement. In addition, the Gulf Stream is EFH because it provides a mechanism to disperse snapper grouper species larvae.

For specific life stages of estuarine dependent and nearshore snapper grouper species, EFH includes areas inshore of the 31 m contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom.

## J-3 HAPC for species managed under the Snapper Grouper FMP

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

EFH-HAPCs for Golden Tilefish includes irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300m are HAPC. Golden tilefish are generally found in 80-540 m, but most commonly found in 200 m depths. EFH-HAPC for Blueline Tilefish includes irregular bottom habitats along the shelf edge in 45-65 m depth; shelf break; or upper slope along the 100-fathom contour (150-225 m); hard bottom habitats characterized as rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, or rocky reefs in the South Atlantic Bight; and the Georgetown Hole (Charleston Lumps) off Georgetown, South Carolina.

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

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

In CE-BA 1 (SAFMC 2009b), the Council determined that SMZs met the criteria to be EFH-HAPCs for species included in the Snapper Grouper FMP. Since CE-BA 1 (SAFMC 2009b), the Council has designated additional SMZs in the Snapper Grouper FMP including Spawning SMZs. The SMZ and EFH-HAPC designations serve similar purposes in identifying and protecting valuable and unique habitat for the benefit of fish populations, which are important to both fish and fishers. Therefore, the Council determined that a designated SMZ meets the criteria for an EFH-HAPC designation, and the Council intends that all SMZs designated under the Snapper Grouper FMP also be designated as EFH-HAPCs under the Snapper Grouper FMP.

**References:**

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SAFMC. 2023. South Atlantic Fishery Management Council Habitat Program Evaluation and Blueprint. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, North Charleston, SC 29405.

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# Appendix K. Summary of Scoping and Public Hearings

Summary of Comments received on the Notice of Intent (NOI).

On October 9, 2024, NOAA Fisheries published a NOI to Prepare an Environmental Impact Statement to Prepare a Secretarial Amendment to Address Overfishing of Red Snapper in the South Atlantic in the Federal Register and requested comments as part of the scoping process (89 FR 81892). The comment period closed on November 9, 2024.

During the comment period, 1345 comment submissions were received. See https://www.regulations.gov/document/NOAA-NMFS-2024-0107-0001/comment for all the comments in their entirety. Of these submissions, two voiced support for the amendment. Eight comments were out of the scope of the analysis.

Many submissions included multiple relevant comments. Staff reviewed each comment and categorized them based on general topics.

Most of the comments were received in response to an editorial piece published in the Daytona newspaper. This article incorrectly stated that NMFS was planning to close the entire south east region to bottom fishing.

In general, most comments fell into one of the following categories:

- Against the action (with no additional rationale).
- The science used to make this management decision is flawed and should be reconsidered.
- There are red snapper everywhere and the science that shows that they overfished must be wrong.
- The socio-economic impacts associated with management changes to red snapper will be significant and will destroy local businesses. More specifically, vast closures to bottom fishing will directly impact the headboat sector, which allows for more equitable access to the water than other sectors. These actions directly affect recreational fishermen but commercial fishing is the real issue. There were also some comments that addressed the indirect socio-economic impacts that action would have on hotels, restaurants and other businesses that rely on the tourism that fishing supports.

A number of comments focused on the overall management of red snapper and some addressed the process of making management changes using a Secretarial Amendment.

- The Council process should be used to make management decisions and that going outside the Council process was seen as government overreach.
- NMFS should wait to make management decisions until they get more data from the EFP program.
- The Great Red Snapper Count may give better information than existing data collection.
- Allow the states to manage red snapper since the issues are not the same state by state.
- Implement more fisherman-dependent citizen science data collection.

Some comments focused on specific problems that are being faced by fishermen in the South Atlantic including:

- Increased shark depredation (as well as red snapper and grouper) on the reefs are making it hard to catch other snapper-grouper species.
- Increased red snapper abundance, seen at reefs throughout the region, leads to inability to catch other snapper-grouper species.
- The discard mortality of red snapper is not accurate. Fishermen are using descending devices to reduce barotrauma.
- The discards of red snapper are high because there are so many red snapper and there is no season for them. If fishermen are catching any species, they likely will catch a red snapper and will have to discard it.

Some comments focused on suggested solutions that could be reviewed by management including:

- Consider managing with zones with rotating closed/opened seasons inside of 40 miles (where 90% of pressure occurs) and an open zone out beyond 40 miles (still subject to state/federal seasons) with a 1 or 2 fish boat limit.
- Consider implementing a regulated sale of seasonal tags for red snapper with a slot size and yearly allotment.
- Consider implementing a daily bag limit and/or size limitations to include slot sizes.
- Consider discrete MPAs.
- Consider 1 fish per day, and 20 inch size limit.
- Consider slot limits.
- Consider one month open in spring and one month open in fall.
- Consider regional management as red snapper stocks are more plentiful in some areas.
- Consider seasonal open seasons instead of a total closure; with an allowable harvest, the mortality from releases would drop.

Other comments received include:

- Consider water quality issues.
- Restrict the illegal, unregulated boats fishing in that area.

The current management of a one-day season for red snapper impacts safety at sea.