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Amendment 11 to the Fishery Management Plan for Coral, Coral Reefs, and Live / Hard Bottom Habitats of the South Atlantic

Amendment 12 to the Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region

Establish a Shrimp Fishery Access Area Along the Northern Extension of the Oculina Bank Habitat Area of Particular Concern

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

December 2025 DRAFT

South Atlantic Fishery Management Council
4055 Faber Place Drive; Suite 201
North Charleston, SC 29405

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Summary

Amendment 11 to the Fishery Management Plan (FMP) for the Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) and Amendment 12 of the FMP for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP) is a joint amendment that proposes to establish a shrimp fishery access area (SFAA) along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) where trawling for rock shrimp is currently prohibited. Rock shrimp fishermen requested that the proposed area be reviewed to determine if this historic commercial trawling area could be reopened to rock shrimp fishing.

The South Atlantic Fishery Management Council (Council) established the OHAPC through the original Coral FMP in 1982 and prohibited fishing with bottom longline, bottom trawl, dredge, pot, or trap in the OHAPC (49 FR 29607; July 23, 1984). Anchoring within the area by all fishing vessels was prohibited in the OHAPC in 1996 (SAFMC 1995) and the area was later expanded to include newly discovered *Oculina* coral habitat. With the discovery of extensive deepwater coral ecosystems in 2011, the Council added the northern extension to the OHAPC through Amendment 8 to the Coral FMP in 2014 (SAFMC 2013). Coral Amendment 8 also allowed transit through the OHAPC by fishing vessels with a valid commercial permit for rock shrimp and rock shrimp on board, and modified vessel monitoring system transmission requirements for such vessels.

While finalizing Coral Amendment 8, the Council received public comments that a discrete area of the proposed northern extension of the OHAPC (the area now proposed in Coral Amendment 11/ Shrimp 12 for SFAA designation) was economically important for the rock shrimp fishery. The rock shrimp industry provided coordinates delineating this important fishing area and further refined those coordinates in March 2014. During their June 2014 meeting, the Council discussed industry concerns and agreed to further discuss and review the issue of whether to allow rock shrimp fishing in an area within the northern extension of the OHAPC. In addition, it was clarified that the review would only focus on the newly closed area, from which rock shrimp industry representatives maintained they would be losing economic benefits.

The Council revisited the SFAA action in June 2020 and recommended moving forward with the action in response to the Presidential Executive Order (EO) 13921 on Seafood Competitiveness and Economic Growth. Coral Amendment 10 addressed the EO 13921 recommendation to "Consider Re-Opening Closed Areas" to commercial fishermen who have lost access to areas that had been traditionally fished. The Council began developing Amendment 10 to the Coral FMP after its September 2020 meeting with an action to establish an SFAA within the OHAPC.

The Council took final action to approve Coral Amendment 10 at its September 2021 meeting and submitted it in December 2021 to the Secretary of Commerce for review pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). On April 29, 2022, National Marine Fisheries Service published a notice of availability to allow for public comment on Coral Amendment 10 (87 FR 25438). Finally, on July 28, 2022, NMFS, on behalf of the Secretary of Commerce disapproved Coral Amendment 10, citing inconsistencies

with the Magnuson-Stevens Act, and deficiencies in the analyses and inconsistencies with the goals and objectives of the Coral FMP.

In this joint amendment, the Council is addressing the deficiencies noted in the disapproval letter for Coral Amendment 10 and re-evaluating whether to establish an SFAA that would allow access to historic fishing grounds for the rock shrimp fishery within a narrow area along the OHAPC boundary.

What Actions are Being Proposed in This Amendment?

Amendment 11 to the Coral FMP and Amendment 12 to the Shrimp FMP proposes the following:

Action 1. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

Preferred Alternative 2. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern, that is 14.10 square nautical miles (NM^2) if the latitude and longitude are projected using a geodesic measurement and a WGS-1984 projection. Allow a shrimp vessel with a valid Commercial Vessel Permit for Rock Shrimp South Atlantic EEZ (Limited Access) to bottom trawl for rock shrimp within the established area bounded by the following coordinates.

Table S.1.1 Coordinates for the proposed Shrimp Fishery Access Area under Preferred Alternative 2.

Point	Latitude	Longitude
Origin	29°17′31.98″	80°10′22.02″
1	29°10′58.98″	80°08′39.00″
2	29°03′34.98″	80°07′28.98″
3	28°54′25.02″	80°05′22.98″
4	28°48′36.00″	80°04′22.02″
5	28°30′00.00″	80°01′01.02″
6	28°30′00.00″	80°00′46.02″
7	28°46′00.84″	80°03′28.50″
8	28°48′37.14″	80°03′56.76″
9	28°53′18.36″	80°04′48.84″
10	29°11′19.62″	80°08′36.90″
11	29°17′33.96″	80°10′06.90″
Origin	29°17′31.98″	80°10′22.02″

Purpose for Action

The purpose of this amendment is to reinstate commercial access to this historically important fishing ground for the rock shrimp fishery by creating a Shrimp Fishery Access Area along the eastern boundary of the northern extension of the Oculina Habitat Area of Particular Concern in an area where the rock shrimp fishery operated historically while minimizing impacts to deepwater coral.

Need for Action

The need for this amendment is to allow the rock shrimp fishery to attain optimum yield while minimizing negative impacts to deepwater coral in the Council's jurisdiction.

Chapter 1. Introduction

1.1 What Actions are Being Proposed?

The proposed action in Amendment 11 to the Fishery Management Plan (FMP) for Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) and Amendment 12 to the Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP) would allow access to a discrete historic fishing area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) through establishment of a shrimp fishery access area (SFAA). Fishing in this area was prohibited through regulations implementing Amendment 8 to the Coral FMP (SAFMC 2013) (80 FR 42423, July 17, 2015; correcting final rule published October 7, 2015, at 80 FR 60565). However, before the finalization of Coral Amendment 8, rock shrimp fishermen requested that the proposed area be reviewed to determine if this specific historic trawling area could be reopened to fishing for rock shrimp in the future.

1.2 Who is Proposing the Action?

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

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks in the South Atlantic Region.
- Consists of 13 voting members and 4 non-voting members; voting members include 1 representative from each of the 4 South Atlantic state fishery management agencies, 8 members appointed by the Secretary of Commerce, and the Southeast Regional Administrator of NMFS.
- Responsible for developing fishery management plans and amendments under the Magnuson-Stevens Act; recommends actions to NMFS for implementation.
- Management area is from 3 to 200 nautical miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West, except for mackerel which is from New York to Florida, and dolphin and wahoo, which is from Maine to Florida.

The Council and NMFS are also responsible for making this amendment available for public comment. The draft environmental assessment (EA) is combined with the amendment and made available to the public during the scoping process, public hearings, and in Council meeting briefing books. In addition, the final EA and amendment will be made available for public comment during any the rulemaking process that would implement the amendment. The final EA and amendment may be found on the Council's website at http://www.safmc.net.

1.3 Where is the Project Located?

Management and conservation of coral, coral reefs, and live/hard bottom habitats in waters off the southeastern United States (South Atlantic) in the 3-200 nautical miles U.S. exclusive economic zone (EEZ) (Figure 1.1) is conducted under the Coral FMP (GMFMC & SAFMC 1982). The Council manages over 400 coral species and associated habitat under this FMP[1]. The OHAPC, as modified through Coral Amendment 8 (SAFMC 2013), is located in the EEZ off the east coast of Florida (Figure 1.2). The OHAPC protects the known distribution of *Oculina* coral in the region. Management and conservation of shrimp in waters of the South Atlantic EEZ is conducted under the Shrimp FMP. This FMP includes three penaeid shrimp species, brown, pink, and white shrimp, as well as one deepwater shrimp species, rock shrimp. The proposed action in this amendment only directly affects the rock shrimp fishery.

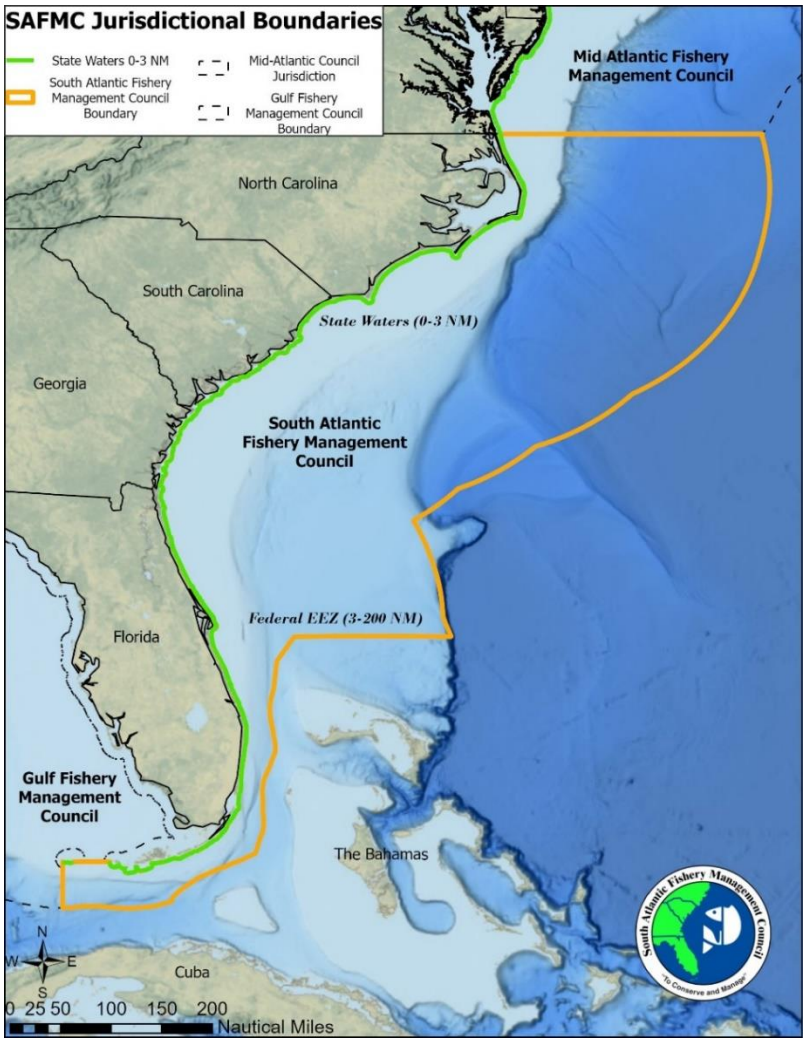

Figure 1.1. Jurisdictional boundaries of the South Atlantic Fishery Management Council.

[1] https://safmc.net/fishery-management-plans/coral/

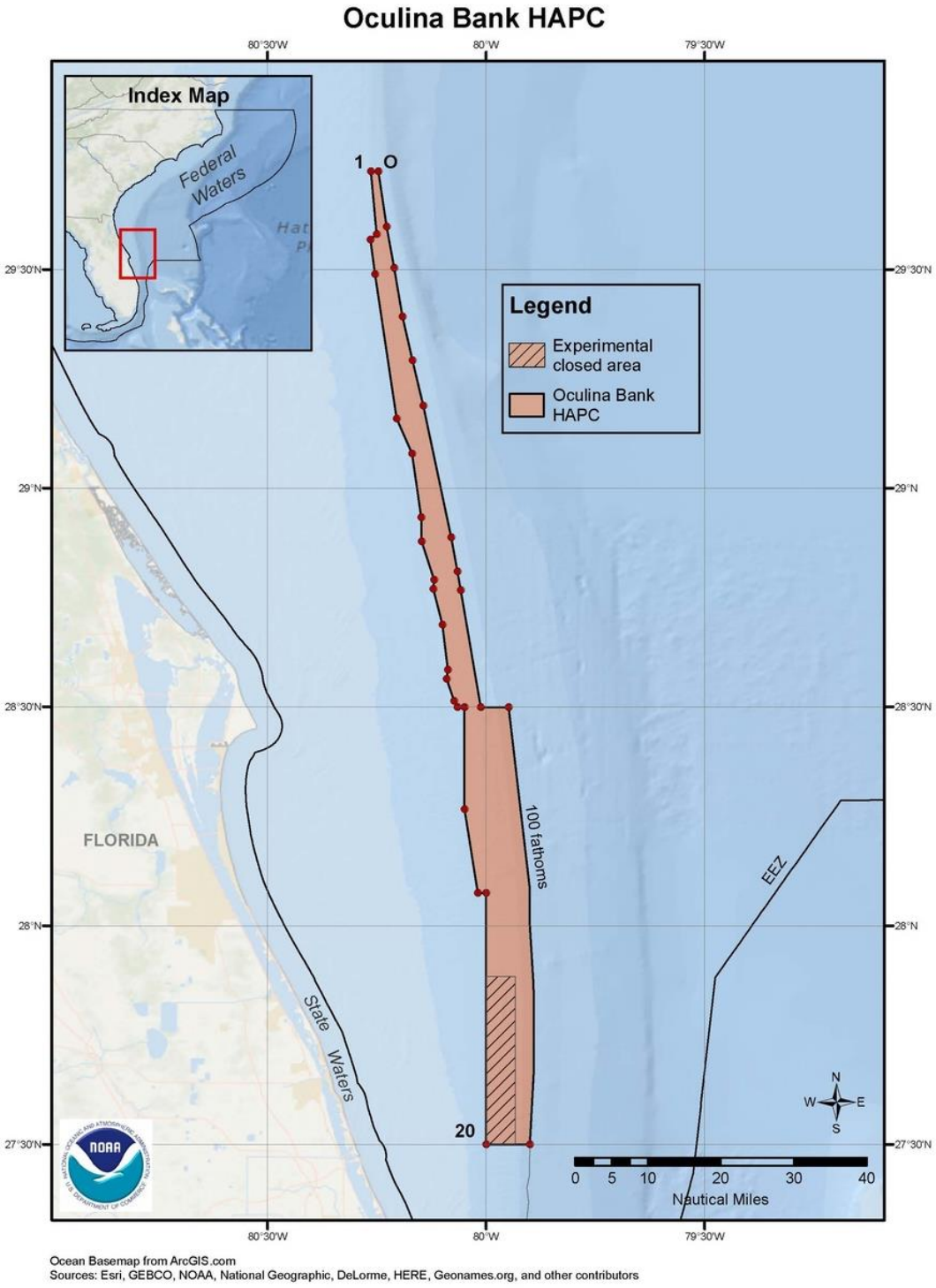

Figure 1.2. Map of the OHAPC. The OHAPC is the entire area in red. The experimental closed area, which is within the OHAPC, is applicable only for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region.
Source: https://www.fisheries.noaa.gov/resource/map/oculina-bank-hapc-and-experimental-closed-area-fishery-management-area-map-gis-data

1.4 Why are the Council and NMFS Considering Action?

Purpose for action

The purpose of this amendment is to reinstate commercial access to this historically important fishing ground for the rock shrimp fishery by creating a Shrimp Fishery Access Area along the eastern boundary of the northern extension of the Oculina Habitat Area of Particular Concern in an area where the rock shrimp fishery operated historically while minimizing impacts to deepwater coral.

Need for Action

The need for this amendment is to allow the rock shrimp fishery to attain optimum yield while minimizing negative impacts to deepwater coral in the Council's jurisdiction.

Discussion

The Council approved Amendment 8 to the Coral FMP (Coral Amendment 8) to expand the boundaries of the OHAPC at its September 2013 meeting. The National Marine Fisheries Service (NMFS), on behalf of the Secretary of Commerce, approved the amendment on August 18, 2014, and the final rule to implement Coral Amendment 8 became effective on August 17, 2015 (80 FR 42423; July 17, 2015; correcting final rule published October 7, 2015, at 80 FR 60565).

The Council received public comment when it was finalizing Coral Amendment 8 that a discrete area along the eastern boundary of the northern extension of the OHAPC, was an important fishing ground for rock shrimp. The commercial rock shrimp industry provided the coordinates for the historic fishing area during the development of Amendment 8. During the May 2013 Deepwater Shrimp Advisory Panel (AP) meeting, AP members indicated that vessel monitoring system (VMS) data verified past rock shrimp fishing in the proposed area. The AP Chair also noted that the portion of the rock shrimp fishery that intends to use this area is variable—fishing effort changes based on upwelling conditions and shifting catch composition.

During their June 2014 meeting, the Council discussed industry concerns and agreed to further consider whether to allow rock shrimp fishing in an area within the northern extension of the OHAPC. In addition, the Council clarified that the review would only focus on the newly expanded portion of the OHAPC, as this was the closed area from which rock shrimp industry representatives maintained they would be losing economic benefits. To conduct an evaluation, the Council requested the NMFS Southeast Fisheries Science Center provide the following: data up to 2014; South Atlantic rock shrimp bycatch results from observer trips; detailed mapping and percent of area mapped of the OHAPC northern extension; observations on algae in the southern area of the rock shrimp fishery; updated landings through 2014; updated trip costs and value; and electronic logbook data from Gulf of Mexico (now known as Gulf of America) shrimp vessels operating in the South Atlantic by September 1, 2014. In June 2015, the Council decided to add the development of an amendment to consider establishing an SFAA for rock shrimp fishing along the eastern boundary of the northern extension of the OHAPC to the workplan. Due to an increased staff workload and the need for more mapping data on the area, the development of the amendment was delayed.

In the June 2018 Council meeting, a motion was made to consider adjusting the eastern edge of the Oculina Bank HAPC. During discussions on what would become Coral Amendment 10, which contained the same coordinates for an SFAA that are identical to the current **Preferred Alternative 2,** a Council member with in-depth knowledge of the rock shrimp fishery offered additional information for the Council to consider, including a historical account of how the fishery originated and developed. In the 1960s, vessels that targeted brown shrimp were discarding tens of thousands of pounds of rock shrimp nightly since they were unable to properly process and market them. The rock shrimp portion of the shrimp fishery started as a home processing effort that involved hand splitting the shrimp and selling them to restaurants along the Indian River Lagoon in Florida. Half a dozen boats operated out of Port Canaveral, Florida, in the 1970s harvesting and processing about ten million pounds of rock shrimp. With the modification of the shrimp peeling machine to mechanically peel and de-vein rock shrimp, dozens of large Gulf of Mexico shrimp vessels entered the once small boat portion of the fishery. Rock shrimp landings increased dramatically, with participation in the fishery increasing to 150 boats in just a few years. In addition to the rock shrimp fleet, hundreds of calico scallop vessels based out of Port Canaveral were fishing the scallop beds from the Carolinas to Cape Canaveral, Florida, impacting rock shrimp habitat and *Oculina* coral. Subsequently, east coast rock shrimp industry representatives worked with the Council to establish the expanded OHAPC and limit participation in the rock shrimp portion of the fishery. Rock shrimp vessels were subsequently required to have a federal fishing permit, and the limited access rock shrimp fishery was established in the South Atlantic by the Council in Shrimp FMP Amendment 5 (January 16, 2003; 68 FR 2188). In addition, vessels in the limited access fishery were also required to use a VMS when fishing for or possessing rock shrimp to enhance monitoring of the fishery.

Additional information on shrimp movement and shrimp fishery operations relative to the northern extension of the OHAPC was also provided during the Council discussion of Amendment 10 in September 2021. During the beginning of the rock shrimp season in the early fall, rock shrimp are found on the inshore side of the OHAPC; when the Gulf Stream shifts further offshore, the shrimp follow it. During the second half of the season, the shrimp are found on the offshore side of the reef, so vessels trawl along the offshore side of the reef, which becomes narrower and narrower north of Cape Canaveral, Florida. This constrains the area where vessels can fish for rock shrimp. Because of the concentrated nature of the rock shrimp portion of the fishery along the eastern boundary of the northern extension of the OHAPC, reducing even a portion of the area would impact the fishery.

Development of Amendment 10 to the Coral FMP (Coral Amendment 10, SAFMC, 2021) began following the Council's direction at its September 2020 meeting. Coral Amendment 10 would have established an SFAA along the eastern boundary of the northern extension of the OHAPC, where trawling for rock shrimp is currently prohibited. The Council took final action to approve Coral Amendment 10 at its September 2021 meeting and then submitted it to the NMFS for review in December 2021.

During the development of Coral Amendment 10, NMFS published a notice of availability and accepted public comments on the amendment. NMFS received 353 distinct comments during the public comment period on the notice of availability for Coral Amendment 10. Several of the submissions consisted of a list of individual signatures on form letters in opposition to the

action. Inclusion of those individuals brings the public comment count to over 32,200 individuals. Comment submissions were from commercial and recreational fishermen, fishing organizations, environmental groups, and the general public, with most comments in opposition to establishing the proposed SFAA. The comments in support of the amendment (approximately 30) were made by commercial rock shrimp fishermen, seafood dealers, restaurateurs, the Southern Shrimp Alliance, and the Florida Fish and Wildlife Conservation Commission.

Comments opposing the action emphasized the following main points:

- The proposed action did not minimize adverse fishing impacts to essential fish habitat (EFH).
- The proposed action was inconsistent with the goals and objectives of the Coral FMP, specifically in regard to protection of EFH.
- The Council concluded that the degree and likelihood of adverse impacts were unknown.
- The proposed action did not provide an adequate buffer to minimize adverse impacts to coral from bottom trawling. The Coral AP recommended a minimum buffer of 1,000 meters (m) to reduce potential impacts from direct trawling and sedimentation.
- The proposed action of opening a previously closed area countered the Biden Administration's goal of conserving at least 30% of U.S. lands by 2030.
- The proposed action posed a high potential for adverse effects to the ecosystem for very small economic gains to the industry.

The NMFS, on behalf of the Secretary of Commerce, disapproved Coral Amendment 10 and stated Amendment 10 and its supporting analyses did not adequately demonstrate how the amendment was consistent with:

- Section 303(a)(7) of the Magnuson-Stevens Act, which requires FMPs to minimize to the extent practicable the adverse effects of fishing on essential fish habitat;
- Section 301(a)(9) of the Magnuson-Stevens Act, which requires fishery conservation and management measures to minimize bycatch to the extent practicable and, to the extent bycatch cannot be avoided, minimize the mortality of such bycatch; and
- Goals and objectives of the Coral FMP, specifically in regard to protection of essential fish habitat**.**

Under Section 304(a)(4) of the Magnuson-Stevens Act, the Council has the opportunity to remedy the deficiencies in Coral Amendment 10 as listed above and then resubmit a revised amendment to NMFS. Upon further review, the Council determined that the establishment of the SFAA should be done through a joint amendment to the Shrimp FMP and the Coral FMP. In developing this joint amendment, the Council is reviewing the reasons Coral Amendment 10 was disapproved and evaluating whether to establish an SFAA in the OHAPC.

1.5 What is the History of Management for Coral?

Management of coral resources was originally established in the FMP for Coral and Coral Reefs of the Gulf of Mexico and South Atlantic (Coral FMP) by the Gulf (previously Gulf of Mexico) Fishery Management Council (Gulf Council) and the Council in 1982 (GMFMC & SAFMC, 1982). The Council subsequently established a separate FMP for Coral, Coral Reefs, and

Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP). The reader is referred to the following link for the management history, summary of changes under each amendment, implementation dates, an up-to-date list of amendments under development and more, for the Coral FMP: https://safmc.net/fishery-management-plans/coral/.

1.6 What is the History of Management for Shrimp?

Management of Shrimp in the South Atlantic First began in 1993 (SAFMC, 1993). The reader is referred to the following link for the management history, summary of changes under each amendment, implementation dates, an up-to-date list of amendments under development and more, for the Shrimp FMP: https://safmc.net/fishery-management-plans/shrimp/.

1.7 Coral FMP Goals and Objectives

- Optimize the benefits generated from the coral resource while conserving the coral and coral reefs
- Minimize adverse human impacts on coral, coral reefs and live hard bottom habitat
- Designate Coral Habitat Areas of Particular Concern (C-HAPCs) to protect coral and live bottom habitat
- Increase public awareness of the importance and sensitivity of coral and coral reefs
- Provide a coordinated management regime for the conservation of coral and coral reefs.

1.8 Shrimp FMP Goals and Objectives

- Eliminate fishing mortality on over-wintering white shrimp following severe winter cold kills.
- Reduce the bycatch of non-target finfish, invertebrates and threatened, protected and endangered species.
- Coordinate development of measures reducing bycatch with South Atlantic states to enhance enforceability of both state and federal regulations.
- Enhance compliance of trawl fishermen participating in a transboundary penaeid shrimp fishery through standardization of bycatch reduction strategies.
- Encourage states with mariculture facilities to carefully monitor these operations and require safeguards to prevent exotic species from escaping and/or diseases from entering the environment.
- Reduce or eliminate loss and/or alteration of the habitat on which shrimp depend or degradation of water quality through pollution that would reduce shrimp production.
- Provide a mechanism to manage rock shrimp under the fishery management plan for the shrimp fishery in the South Atlantic region.
- Minimize impacts of the rock shrimp fishery on coral, coral reefs, and live/hard bottom habitat in the South Atlantic region.
- Implement permit and reporting requirements needed to ensure necessary data are provided by the rock shrimp industry.
- Manage the resource to provide for higher sustainable net benefits by taking the first step in reducing the current overcapacity in the rock shrimp fishery.

- Remove latent permits from the rock shrimp fishery and restrict future entrants so as not to exacerbate the overcapacity problem in the future.
- Protect the interests of traditional user groups in the rock shrimp fishery. Traditional users also tend to be more familiar with management regulations pertaining to their fishery as opposed to new entrants who enter a fishery and participate infrequently.
- Decrease fishing mortality on unmarketable small/juvenile rock shrimp with the goal of increasing future yield in the rock shrimp industry from reduced discards of small shrimp.
- Improve enforcement of current fishery management regulations, particularly with regard to illegal fishing in the Oculina Bank HAPC, by requiring vessel monitoring systems on rock shrimp vessels.
- Protect the interests of vessel owners who are not operators and increase compliance with management regulations by the requirement for operator permits for rock shrimp vessels.
- Ensure that sufficient effort remains active to sustain the rock shrimp fishery and infrastructure.

Chapter 2. Proposed Actions

2.1. Action 1. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

2.1.1. Alternatives

Alternative 1 (No Action). No person may use a bottom longline, bottom trawl, dredge, pot, or trap in the Oculina Bank Habitat Area of Particular Concern. If aboard a fishing vessel, no person may anchor, use an anchor and chain, or use a grapple and chain. There are no shrimp fishery access areas within the Oculina Bank Habitat Area of Particular Concern.

Preferred Alternative 2. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern, that is 14.10 square nautical miles (NM^2) if the latitude and longitude are projected using a geodesic measurement and a WGS-1984 projection. Allow a shrimp vessel with a valid Commercial Vessel Permit for Rock Shrimp South Atlantic EEZ (Limited Access) to bottom trawl for rock shrimp within the established area bounded by the following coordinates.

Table 2.1.1.1 Coordinates for the proposed Shrimp Fishery Access Area under **Preferred Alternative 2.**

Point	Latitude	Longitude
Origin	29°17′31.98″	80°10′22.02″
1	29°10′58.98″	80°08′39.00″
2	29°03′34.98″	80°07′28.98″
3	28°54′25.02″	80°05′22.98″
4	28°48′36.00″	80°04′22.02″
5	28°30′00.00″	80°01′01.02″
6	28°30′00.00″	80°00′46.02″
7	28°46′00.84″	80°03′28.50″
8	28°48′37.14″	80°03′56.76″
9	28°53′18.36″	80°04′48.84″
10	29°11′19.62″	80°08′36.90″
11	29°17′33.96″	80°10′06.90″
Origin	29°17′31.98″	80°10′22.02″

Alternative 3. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern that is 18.87 NM^2 if the latitude and longitude are projected using a geodesic measurement and a WGS-1984 projection. Allow a shrimp vessel with a valid Commercial Vessel Permit for Rock Shrimp South Atlantic

EEZ (Limited Access) to bottom trawl for rock shrimp within the established area bounded by the following coordinates.

Table 2.1.1.2 Coordinates for the proposed Shrimp fishery Access Area under for Alternative 3.

Point	Latitude	Longitude
Origin	29°17′31.98″	80°10′22.02″
1	29°11′19.98″	80°8′54.00″
2	28°53′15.00″	80°5′27.00″
3	28°48′36.00″	80°4′33.00″
4	28°45′57.00″	80°4′4.98″
5	28°30′00.00″	80°01′01.02″
6	28°30′00.00″	80°00′46.02″
7	28°46′00.84″	80°03′28.50″
8	28°48′37.14″	80°03′56.76″
9	28°53′18.36″	80°04′48.84″
10	29°11′19.62″	80°08′36.90″
11	29°17′33.96″	80°10′06.90″
Origin	29°17′31.98″	80°10′22.02″

2.1.2. Discussion

Alternative 1 (No Action) would maintain current regulations and not establish a shrimp fishery access area (SFAA) along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC).

Preferred Alternative 2 and **Alternative 3** would establish an SFAA to reopen historic shrimp fishing grounds to the rock shrimp fishery along the northern extension of the OHAPC that were closed in Coral Amendment 8 as of August 17, 2015 (80 FR 42423; July 17, 2015; correcting final rule published October 7, 2015, at 80 FR 60565).

Preferred Alternative 2 would establish an SFAA that encompasses approximately 14.10 NM^2 and is based on coordinates presented to the Council by rock shrimp fishermen (Figure 2.1.1). This set of coordinates was reaffirmed during the November 2020 meeting of the Deepwater Shrimp Advisory Panel.

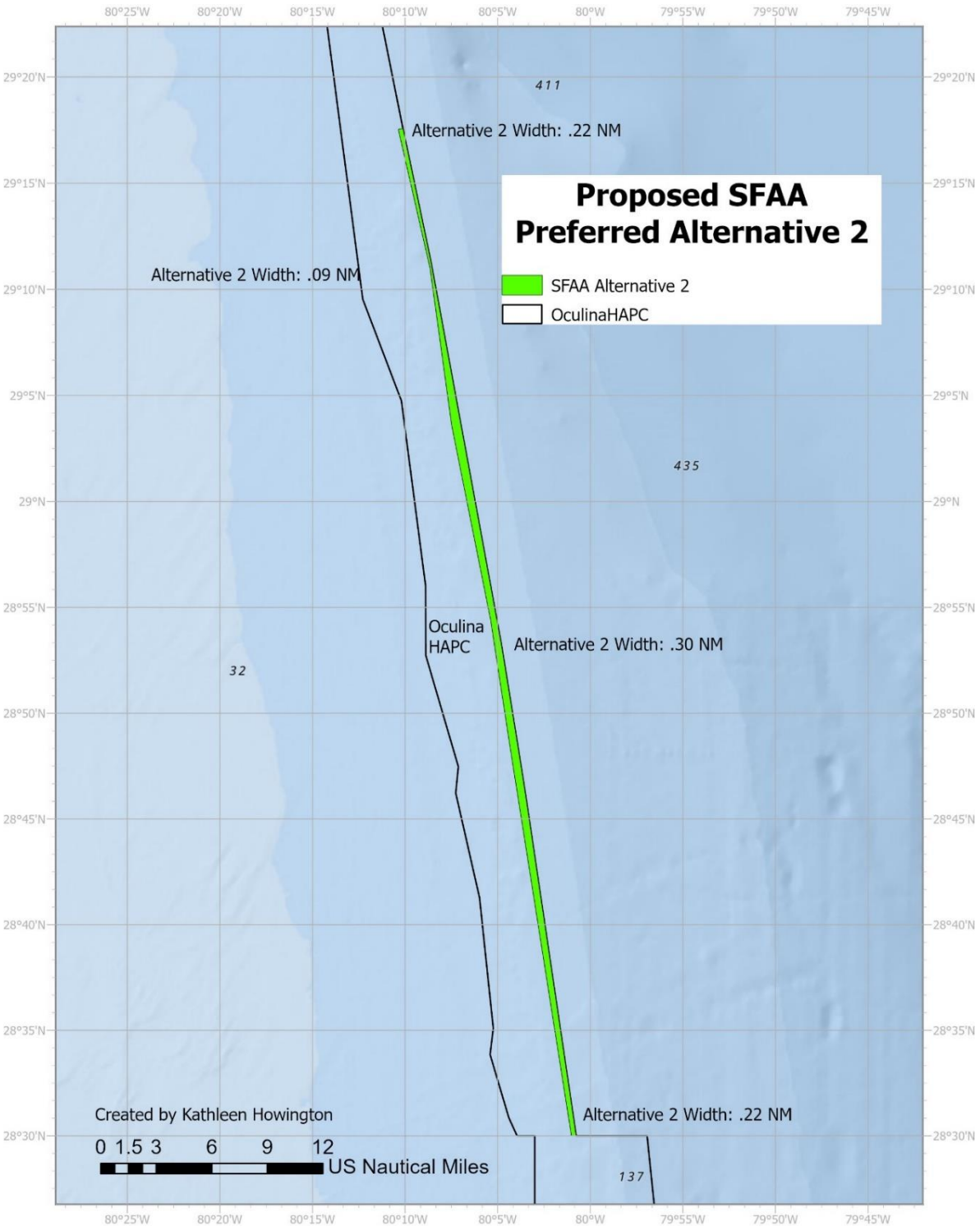

Figure 2.1.1. Shape and approximate widths for the proposed SFAA (**Preferred Alternative 2**). Note: OHAPC Northern Extension width range (0.1 -0.5 Nautical Miles).

Alternative 3 would establish an SFAA that encompasses approximately 18.87 NM^2 and is based on coordinates also presented by rock shrimp fishermen (Figure 2.1.2).

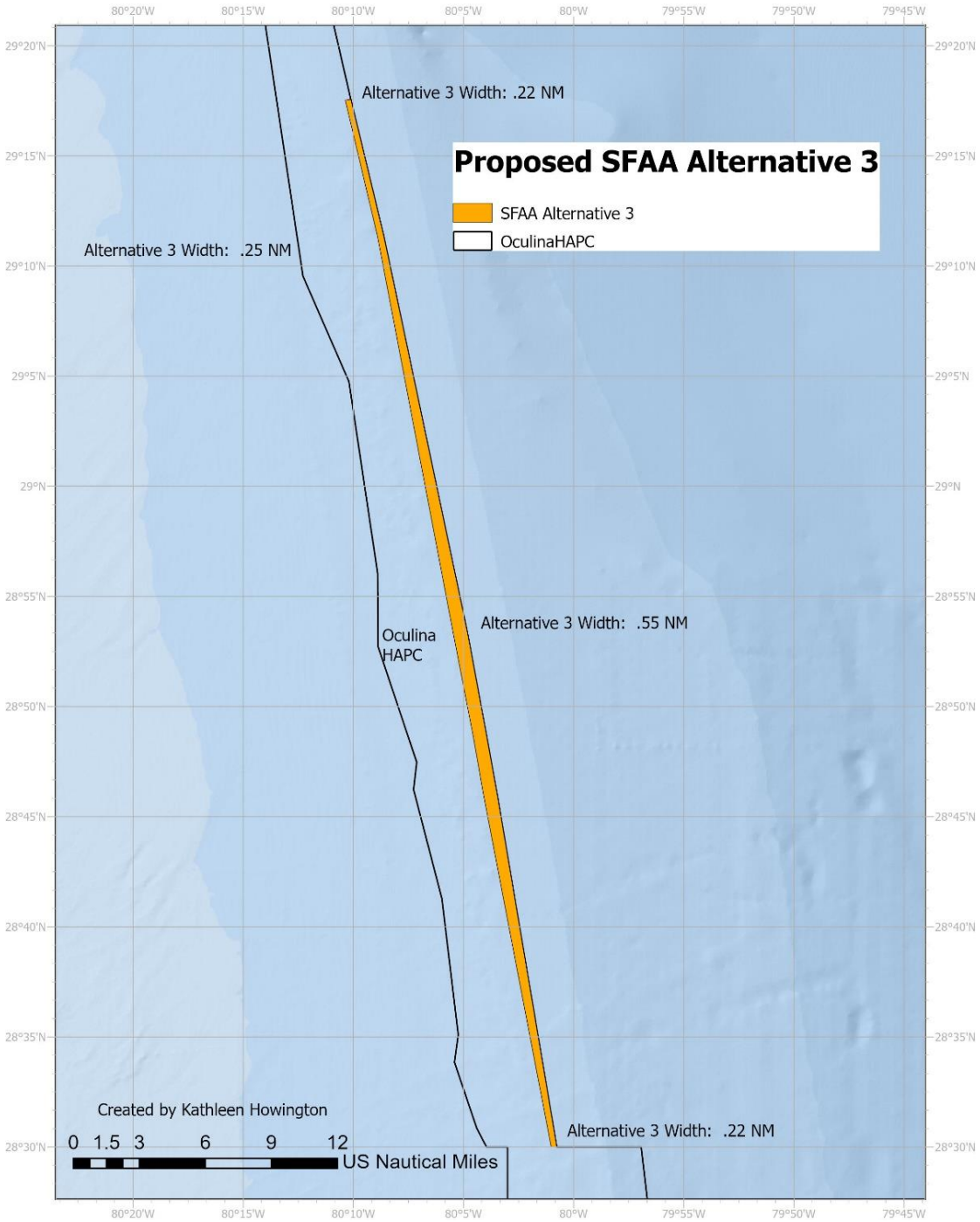

Figure 2.1.2. Shape and approximate widths for the proposed SFAA (Alternative 3). Note: OHAPC Northern Extension width range (0.2 -0.6 Nautical Miles).

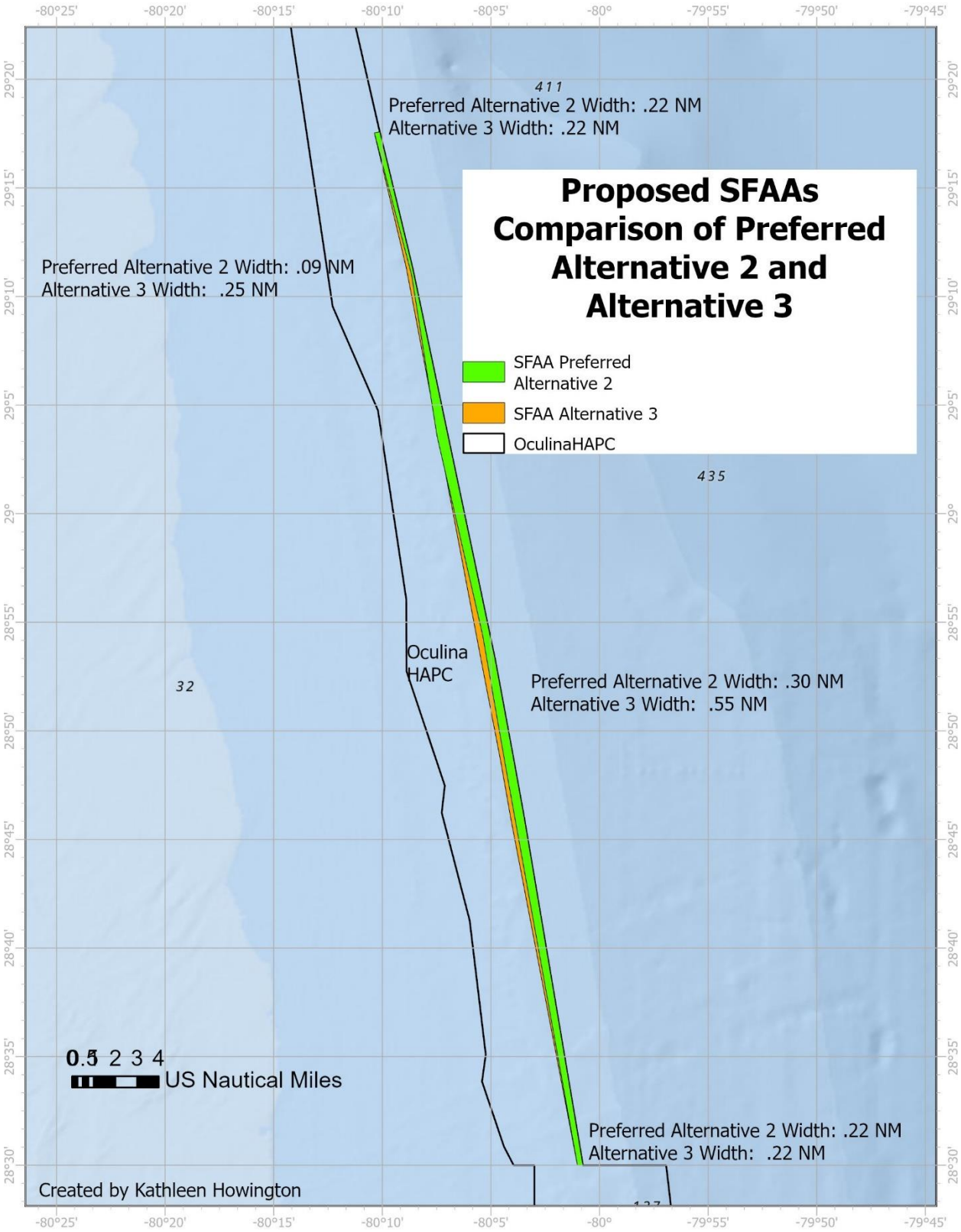

Figure 2.1.3. Comparison of SFAA Preferred Alternative 2 and Alternative 3 layouts and widths.

2.2 Comparison of Alternatives

Alternative 1 (No Action) would not establish an SFAA. **Preferred Alternative 2** and **Alternative 3** would establish SFAAs of approximately 14.10 NM^2 and 18.81 NM^2, respectively. Establishing an SFAA as proposed under **Preferred Alternative 2** and **Alternative 3** is not expected to result in direct negative biological impacts to deepwater coral, as no coral pinnacles are known to exist within the proposed SFAA. The SFAA is intended to be located in an area where coral presence is not expected. There could, however, be indirect negative impacts from gear damage to pinnacles close to the boundary of the SFAA or sedimentation on pinnacles from trawling activities. The effects of gear damage on nearby coral is expected to be low as fishermen avoid gear interactions and vessels that would be allowed to fish in the SFAA are equipped with vessel monitoring systems (VMS) that help ensure they do not trawl within the closed area. Prior to the restrictions in Coral Amendment 8, the fishing effort within the proposed SFAA has historically been low and variable.

Sedimentation risk from trawling is also expected to be low. There is very little information on the dispersal of sediment related to trawling activity in this region. It is known that upwelling events in the area can cause episodic intrusions of cold water throughout the year (Reed, 2006) that would increase the risk of sedimentation if shrimping were occurring in the proposed SFAA. A review of Surfline[2] and National Weather Service reports[3] for the area, only noted four upwelling events in a 20-year period from 2014-2024. An analysis of buoy temperature data for the National Data Buoy Center number 41009[4], which is located near the proposed SFAA at 28.508 N 80.185 W**,** showed a temperature drop that indicated an average of 1.5 upwelling days per year during the months of May-September. It is expected that the distance between the coral pinnacles and the boundary of the SFAA in **Preferred Alternative 2** would provide a larger buffer than under **Alternative 3**, decreasing sedimentation impacts.

Alternative 1 (No Action) would result in foregone landings of rock shrimp and thus foregone economic benefits associated with these landings compared to **Preferred Alternative 2** and **Alternative 3**. **Preferred Alternative 2** and **Alternative 3** would result in net economic benefits by allowing vessels fishing for rock shrimp with bottom trawl gear to potentially increase landings of rock shrimp through access to an additional 14.10 NM^2 or 18.87 NM^2 areas, respectively. Given the variability in usage of the area as well as exhibited variability in overall participation in the limited access component of the rock shrimp portion of the shrimp fishery, the economic effects of **Alternative 3** would likely be similar to those described for **Preferred Alternative 2**, but economic benefits under **Alternative 3** would be comparatively higher since this alternative would allow access to 4.77 more square nautical miles within the OHAPC than **Preferred Alternative 2**. Additionally, if landings of rock shrimp increase, these landings are a relatively small component of the overall market for shrimp, given the magnitude of shrimp

[2] https://www.surfline.com/surf-reports-forecasts-cams/united-states/florida/brevard-county/cape-canaveral/4149959
[3] https://forecast.weather.gov/MapClick.php?lat=28.388229&lon=-80.605878
[4] https://www.ndbc.noaa.gov/station_page.php?station=41009

imports. Thus, higher landings of rock shrimp would not be expected to change ex-vessel or consumer prices and therefore, there is no anticipated change in consumer surplus.

Alternative 1 (No Action) would likely result in minimal social effects because the fleet is already harvesting in open areas and is prohibited from working in the entirety of the OHAPC. **Preferred Alternative 2** and **Alternative 3** address stakeholder concerns regarding access to a discrete and historically important fishing area and may improve stakeholder perceptions of the management process. As such, **Preferred Alternative 2** represents the recommendation by rock shrimp fishermen and is therefore expected to have the greatest social benefit, followed by **Alternative 3**, and **Alternative 1 (No Action)**. **Preferred Alternative 2** includes coordinates provided by the industry, which shifted the proposed boundary even further offshore from known or suspected high relief habitat than presented in **Alternative 3**.

The proposed SFAA comprises an area of historical fishing grounds, where the rock shrimp industry was previously able to access the rock shrimp and increase the profitability of their trips prior to the effective date of Coral Amendment 8 in August 2015. Reopening these historic fishing grounds supports the recent Executive Order (EO) 14276, Restoring American Seafood Competitiveness[5] (See Appendix A). Both **Preferred Alternative 2** and **Alternative 3** would reduce regulatory burden on the rock shrimp industry, improve access to the rock shrimp resource, and help to enhance economic profitability for the rock shrimp industry.

The establishment of an SFAA (**Preferred Alternative 2** and **Alternative 3**) would have minimal administrative impacts. This amendment would not modify the transit provision for the OHAPC, and vessels will need to continue to maintain a Vessel Monitoring System (VMS) transmission rate of 1 position per 5 minutes **when transiting through the OHAPC**. However, for effective monitoring of fishing activity within any established SFAA, vessels with a valid commercial permit for rock shrimp that are located in a SFAA must ensure that the required VMS unit transmits a signal indicating the vessel's accurate position every five minutes. Both proposed SFAAs are narrow and still within the OHAPC. A VMS transmission rate of five-minute intervals will aid in effective monitoring of fishing activity within and near the OHAPC. The administrative impacts would also be minimal since there would not be a need to alter VMS technical specifications, in regard to transmission rates or fishing activity via transit. Approved VMS units are currently configured for five-minute transmission rates through a NOAA contractor. Any additional costs associated with trawling at a higher transmission rate would involve modifications to the specific VMS vendors used by the vessel owner and would be the vessel owner's responsibility.

[5] https://www.whitehouse.gov/presidential-actions/2025/04/restoring-american-seafood-competitiveness/

Chapter 3. Affected Environment

TO BE UPDATED AFTER INTEGRATING CHAPTER 4 UPDATES IF NEEDED

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 coral and shrimp species managed under the Fishery Management Plan (FMP) for the Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) and the FMP for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP), respectively, is included in Volume II of the Fishery Ecosystem Plan (FEP; SAFMC 2009c), incorporated here by reference. The South Atlantic Fishery Management Council (Council) designated essential fish habitat (EFH), EFH-Habitat Areas of Particular Concern (HAPC, and EFH Coral Habitat Areas of Particular Concern (CHAPC) are presented in the SAFMC User Guide and spatial representations of these and other habitat related layers are in within the Council's SAFMC Mapper.

The following are the EFH, CHAPCs, and HAPCs for the Coral FMP, Snapper-Grouper Fishery of the South Atlantic Region FMP (Snapper Grouper FMP), and Shrimp FMP. The Coral FMP and Shrimp FMP are included because they are the associated FMPs that this amendment will amend. The Snapper Grouper FMP is included because the coral present in Oculina Bank and the hard bottom found within the OHAPC are EFH for many snapper grouper species, as identified by the life history of coral in section 3.2. In addition, Amendment 4 to the Coral FMP established the entire OHAPC as EFH-HAPC for snapper-grouper species (SAFMC, 1998a).

3.1.1. Essential Fish Habitat

For current EFH designations for species managed under the Coral FMP, Snapper Grouper FMP, or Shrimp FMP; refer to Appendix E.

3.1.2. Habitat Areas of Particular Concern

For current EFH-HAPC for species managed under the Coral, Coral Reef, and Live/Hard bottom Habitats of the South Atlantic Region FMP, Snapper Grouper FMP, or Shrimp FMP; refer to Appendix E.

3.2. Biological and Ecological Environment

The two species directly affected by the action proposed in these amendments are *Oculina varicosa* coral and rock shrimp. *Oculina* is considered a EFH for snapper grouper, so the proposed action could affect those species indirectly. Environmental effects of the action are discussed in Chapter 4.

3.2.1. Oculina Coral

Life History

Oculina coral is a genus of colonial stony coral in the family Oculinidae. In deepwater (>60 meters [m]), *Oculina varicosa* (*Oculina*) forms spherical, dendroid, bushy colonies that are 10 cm to 1.5 m in diameter and height (Figure. 3.2.1.1). The branches average 6 mm in diameter near the tips and frequently grow apart and fuse together to form a large, interconnected structure. Individual corals may coalesce, forming linear colonies 3-4 m in length or massive thickets of contiguous colonies on the slopes and tops of the banks (Reed 1980). The deepwater form lacks symbiotic algae, or zooxanthellae, whereas in shallow water, *Oculina* is usually golden brown with the algal symbiont, and colonies average <30 cm in diameter with thicker branches. The average growth rate for *Oculina*. at a depth of 80 m was estimated to be very slow, at 16 mm/yr (Reed 1981). Bullis and Rathjen (1959) identified rugged coral formations in depths from 27 to 180 m between St. Augustine and Cape Canaveral, Florida. The highest growth rate for *Oculina* is on the top or on the current-facing side of the coral mound. In addition, *Oculina* reefs are periodically exposed to nutrient-rich, cold water upwelling temperatures of 7.4 to 10 °C.

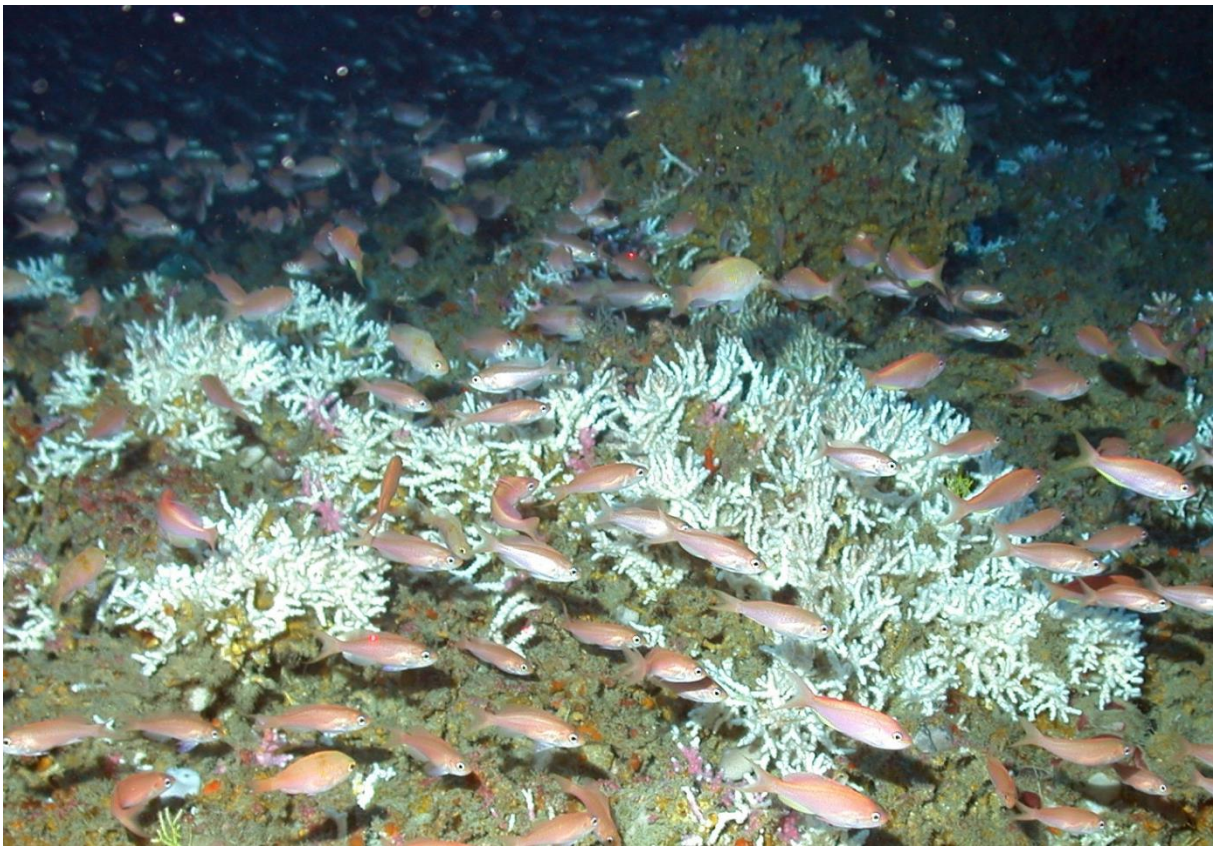

Figure 3.2.1.1 Oculina Coral with fish swimming (Reed, 2006).

Oculina bank ecosystems are unique in that they are monospecific, comprised of one species of delicate branching coral covering hundreds of feet of hills and pinnacles with 25 m relief. *Oculina* banks thrive in areas of strong currents (up to 60 cm/ s), which are thought to contribute to growth (Reed, 1992).

Oculina coral can range from the Caribbean to Bermuda and the Gulf of Mexico, at depths of 5-152 m. The majority of the *Oculina* coral reefs are found in depths of 60 to 100 meters (m) in a zone 2 to 6 km wide along the eastern Florida shelf of the U.S. (Avent et al. 1977; Reed 1980). Much of the habitat mapped and characterized is within or adjacent to the Oculina Bank Habitat Area of Particular Concern (OHAPC), located 15 nautical miles off Fort Pierce and extending northward towards Cape Canaveral, Florida. According to Reed (1981) the majority of massive *Oculina* growth occurs between 27° 30' N. latitude and 28° 30' N. latitude, which encompasses the Oculina CHAPC.

Oculina constitutes essential fish habitat to a complex of species, including those managed under the Snapper Grouper Fishery Management Plan (Snapper Grouper FMP; SAFMC 1983). Biodiversity on *Oculina* reefs is high, and similar to that of shallow tropical coral reefs (Koenig 2001). The deep shelf-edge *Oculina* reefs form natural spawning grounds for species managed under the Snapper Grouper FMP, including commercially important populations of gag and scamp. They also serve as nursery grounds for snowy grouper (*Hyporthodus niveatus*), and feeding grounds for these and many other commercial fish species including black sea bass

(*Centropristis striata*), red grouper (*E. morio*), speckled hind (*E. drummondhayi*), Warsaw grouper (*E. nigritus*), amberjack (*Seriola* spp.), red porgy (*Pagrus pagrus*), and red snapper (*Lutjanus campechanus*) (Gilmore and Jones 1992). Biodiversity, grouper densities, and percentage of intact coral have been documented to be higher inside the Oculina Bank HAPC compared to outside (Harter et al. 2009). At least 73 species of fish are known from the *Oculina* reefs (GMFMC and SAFMC 1982; Koenig et al. 2005; Reed et al. 2006), and like the invertebrate community, this is a sub-tropically derived fauna.

The Florida *Oculina* reefs support a diverse invertebrate fauna with mostly subtropical affinities. Over 20,000 individual invertebrates were found living among the branches of 42 small *Oculina* colonies, yielding 230 species of mollusks; 50 species of decapods, 47 species of amphipods, 21 species of echinoderms and numerous other phyla and: species (Reed et al., 1982; Reed and Hoskin, 1987; Reed and Mikkelsen, 1987). Densities of associated invertebrates rival those of shallow coral reef systems (see review in Reed 2002). Avent et al. (1977) presented a preliminary list of benthic invertebrates dredged from some *Oculina* mounds. Analysis of 42 small *Oculina* colonies yielded about 350 invertebrate species, including 262 mollusk species (Reed and Mikkelson 1987), 50 decapod crustacean species (Reed et al. 1982), 47 amphipod species, 21 echinoderm species, 15 pycnogonid species, and 23 families of polychaetes (Reed 2002b). Although *Oculina* habitats appear to have more associated mobile macroinvertebrates than deeper coral areas, large sponges and soft/horny corals are less abundant (Reed et al. 2006).

3.2.2. Rock Shrimp

Life History

Rock shrimp, *Sicyonia brevirostris*, are very different in appearance from the three penaeid species (Figure 3.2.2.1). Rock shrimp can be easily separated from penaeid species by their thick, rigid, stony exoskeleton. The body of the rock shrimp is covered with short hair, and the abdomen has deep transverse grooves and numerous tubercles.

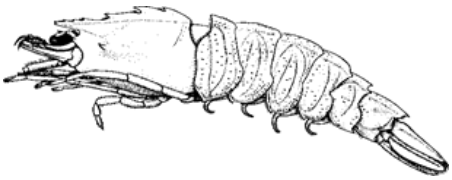

Figure 3.2.2.1. Rock shrimp, *Sicyonia brevirostris*.

Rock shrimp are found in the Gulf of America (Gulf, formerly Gulf of Mexico), Cuba, the Bahamas, and in the U.S. South Atlantic northward to Virginia (SAFMC 1993). The center of abundance for rock shrimp in the South Atlantic region occurs off northeast Florida south to Jupiter Inlet. Rock shrimp live mainly on sand bottom from a few meters to 183 m (600 ft), and occasionally deeper (SAFMC 1993). The largest concentrations are found between 25 and 65 m (82 and 213 ft). Small quantities of rock shrimp are also found off North Carolina, South Carolina, and Georgia (SAFMC 1993).

Rates of growth in rock shrimp are variable and depend on factors such as season, water temperature, shrimp density, size, and sex. Rock shrimp grow between 0.08- and 0.12-inches carapace length (CL) per month (2 to 3 millimeters) as juveniles and 0.02 inches CL per month as adults (0.5 - 0.6 millimeters). Rock shrimp are bottom feeders, most active at night, with a diet primarily of mollusks, crustaceans, and polychaete worms.

While the foundational research by Kennedy et al. (1977) remains a significant source of information on rock shrimp, comprehensive research has continued since that time. This section presents some of the more significant findings from that study regarding the biology of rock shrimp on the east coast of Florida. For example, recruitment to the area offshore of Cape Canaveral, Florida, occurs between April and August with two or more influxes of recruits entering within one season (Kennedy et al. 1977). Other early studies, such as Keiser (1976), described the distribution of rock shrimp in coastal waters of the southeastern U.S., and Whitaker (1983) presented a summary of information on rock shrimp off South Carolina. Additional life history information on rock shrimp can be found in Volume II (PDF page 601) of the Fishery Ecosystem Plan (SAFMC, 2009c)[6] and Coral Amendment 8 (SAFMC 2013) and are incorporated here by reference.

Landings

The center of abundance and the concentrated commercial fishery for rock shrimp in the South Atlantic region occurs off northeast Florida south to Jupiter Inlet (SAFMC 1996). Although rock shrimp occasionally are landed from federal waters off North Carolina, South Carolina, and Georgia, they are not landed in quantities capable of supporting a sustainable commercial fishery comparable to the fishery prosecuted in federal waters off Florida. Landings information is presented in Section 3.3.1.

Rock shrimp vessels are required to carry a vessel monitoring system (VMS) to fish for rock shrimp. Therefore, VMS data are a source of vessel operating information, and VMS positions that correspond to a vessel moving at speeds between 2 and 4 knots are used as a proxy for fishing activity. VMS data from 2009 to 2024 are being analyzed in the areas proposed as SFAA in this amendment. Currently, the analysis is focusing on separating out VMS positions pre-closure of the OHAPC (February 2009 - September 2015) and post-closure of the OHAPC (October 2025 – December 2024) and is only focusing on shrimpers who are actively trawling. Visualization of these positions are in figure 3.2.2.2.

[6] https://safmc.net/documents/combined-fep_toc-pdf/

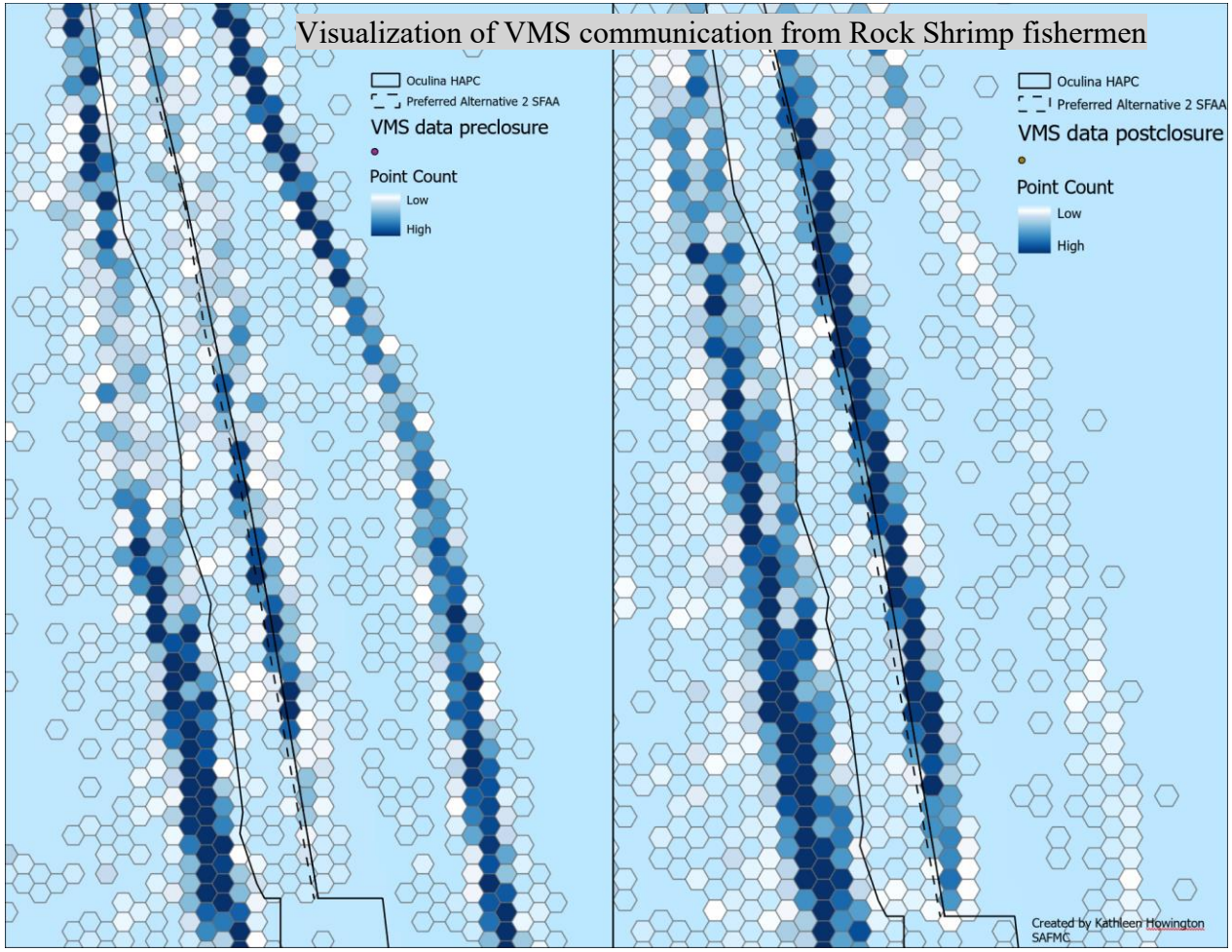

Figure 3.2.2.2 A visualization of VMS positions from Rock Shrimp fishermen separated out pre-closure of the OHAPC (February 2009 - September 2015) and post-closure of the OHAPC(October 2015 – December 2024) that are actively trawling (moving at a speed above 0 and below 5 knots). The VMS communication points were aggregated into a heatmap using the ArcGis Binning tool. The darker hexes indicate more VMS communication pings and therefore indicate areas utilized more often by the rock shrimp fishermen for trawling.

Fishing Techniques

Typical rock shrimp gear configuration consists of two outriggers, each dragging, via a main cable, a two net setup, with some vessels employing a third try net closer to the vessel. Each net has two doors and is required to be equipped with both a turtle excluder device (TED)[7] and one of five approved bycatch reduction devices (BRD)[8]. If a boat is 80 ft in length, a single outrigger is approximately 30 ft in length. A boat pulling 4 nets will have the outside net drag outside the rigger, as the door trails directly behind the tip of the outrigger connected to the main cable. If the nets have a head rope length of 55 ft and a door height of 4 ft, then approximately 38.5 ft (70% of the headrope length) and 4 ft (door height, roughly 10% of the headrope extension) door would extend beyond the outrigger due to gear configuration (Figure 3.2.2.3).

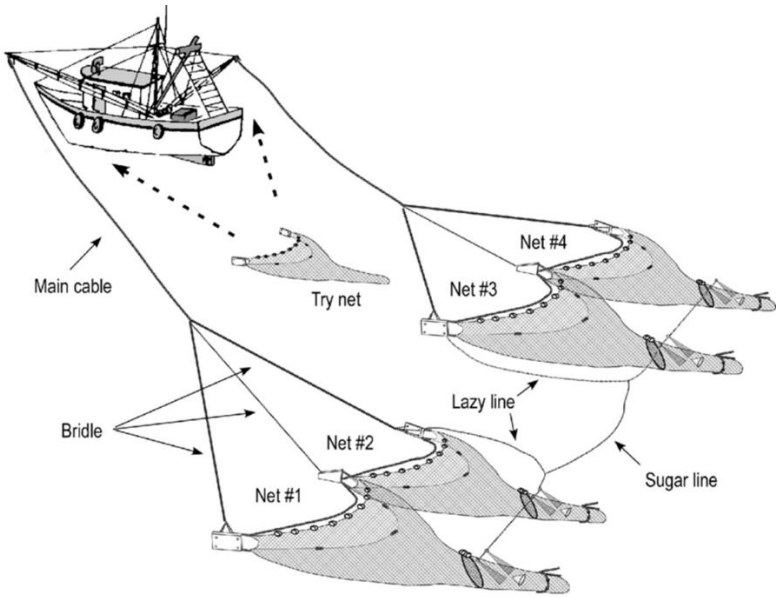

Figure 3.2.2.3. Typical gear configuration for the U.S. southeastern shrimp vessels equipped with four nets. Source : Scott Denton et al. 2012.

3.2.2 Protected Species

The National Marine Fisheries Service (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 the exclusive economic zone (EEZ) of the South Atlantic or Gulf. There are 91 stocks of marine mammals managed within the Southeast region plus the addition of the stocks such as North Atlantic right whales (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

[7] https://www.fisheries.noaa.gov/southeast/bycatch/turtle-excluder-devices
[8] https://www.fisheries.noaa.gov/southeast/bycatch/bycatch-reduction-devices-gulf-america-and-south-atlantic

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 shrimp 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.

On April 26, 2021, NMFS completed its reinitiation of ESA section 7 consultation and issued a new biological opinion on the implementation of the sea turtle conservation regulations under the ESA (applicable to shrimp trawling) and the authorization of the southeast U.S. shrimp fisheries in federal waters under the Magnuson-Stevens Act, which analyzed the effects on threatened and endangered species and designated critical habitat. The opinion anticipates the southeast U.S. shrimp fisheries to interact, capture, and potentially result in mortalities of sea turtles, Atlantic and Gulf sturgeon, giant manta ray, and smalltooth sawfish. NMFS concluded that the activities addressed in the consultation are not likely to jeopardize the continued existence of any threatened or endangered species.

In June 2023, the Southeast Regional Office (SERO) and Sustainable Division (SFD) requested SERO protected Resources Division (PRD) reinitiate Section 7 consultation on U.S. shrimp fisheries for giant manta rays and smalltooth sawfish. The reinitiation was required to address unanticipated observed lethal incidental take of giant manta rays and new information revealing effects of southeast shrimp fisheries on smalltooth sawfish and giant manta rays not considered in the 2021 Shrimp Opinion. No other reinitiation triggers were met so reinitiation scope was limited to addressing only those two species. SERO PRD is revising bycatch estimates based on recent observer data, evaluating the best available data on both species, completing smalltooth sawfish and giant manta rays population viability analyses for understanding the impact of Southeastern shrimp fisheries on these species, and examining the nature and the extent of the lethal trawl interactions. SERO PRD will also be updating the smalltooth sawfish and giant manta ray recovery plans, monitoring observer data for new takes.

In September 2025 the Council was given an overview by SERO PRD reviewing the updated bycatch estimates for giant manta rays and the results of the Population Viability Analysis (PVA) for smalltooth sawfish. The Council, like the Gulf Council, made a motion to develop a workgroup made of shrimp harvester representatives, NMFS staff, Council members and staff, an Scientific and Statistical Committee (SSC) member, and researchers to identify workable solutions that aim to reduce interactions with smalltooth sawfish and giant manta rays. Workgroup development is planned for fall 2025.

3.3 Economic Environment

THIS SECTION WAS COMPLETED IN 2021 AND HAS NOT BEEN UPDATED

A description of the rock shrimp stock affected by the actions considered in this plan amendment is provided in Section 3.2. Additional details and a description of the rock shrimp portion of the shrimp fishery and economic environment is included by reference (SAFMC 2009a). The South Atlantic rock shrimp portion of the shrimp fishery consists of two major sectors: the harvesting sector and the dealer/processor sector. The following discussion provides summary statistics and selected characteristics for these sectors. Economic impacts of the fishery and shrimp imports are also presented.

3.3.1 Harvesting Sector

The harvesting sector is generally composed of relatively large vessels that are predominantly active in federal waters, and almost always using otter trawl gear. Vessels harvesting rock shrimp from federal waters in the South Atlantic must have a federal permit. There are two types of federal permits in the South Atlantic rock shrimp portion of the shrimp fishery: 1) a rock shrimp limited access (RSLA) vessel permit, and 2) a rock shrimp Carolinas Zone (RSCZ) vessel permit. The RSLA permit is a limited access permit that allows vessels to harvest and possess rock shrimp from the South Atlantic EEZ. It is required to harvest or possess rock shrimp from the EEZ off the east coast of Florida and Georgia, where a directed fishery for rock shrimp is prosecuted. The RSCZ is an open access permit and is required to harvest or possess rock shrimp off South Carolina and North Carolina unless the vessel has an RSLA permit. Rock shrimp are an incidentally harvested species off the Carolinas. The number of vessels with a valid RSLA permit has been stable from 2015 through 2019, while the number of vessels possessing a valid RSCZ permit has increased slightly (Table 3.3.1.1).

Table 3.3.1.1 Number of South Atlantic Rock Shrimp Permits from 2015-2019.

Year	RSLA	RSCZ
2015	103	126
2016	103	131
2017	103	142
2018	103	139
2019	103	140

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

The actions and alternatives in this plan amendment would only affect active vessels with RSLA permits (i.e., inactive vessels with RSLA permits and vessels with RSCZ permits would not be affected). Thus, the following information focuses on active vessels with RSLA permits. For example, Table 3.3.1.2 excludes alleged landings of South Atlantic rock shrimp in the Florida Keys by state registered Florida boats from Florida Bay and nearshore waters that were harvested by gear other than otter trawls (e.g., roller frames) and were sold for aquarium trade or bait purposes, as these landings are not part of the managed fishery. Further, the data suggests that a few non-permitted vessels had incidental landings of rock shrimp in each year. These vessels all

had South Atlantic penaeid (SPA) and/or Gulf shrimp moratorium (SPGM) permits in each year, as well as landings from those fisheries, and thus they are traditional shrimp vessels. However, these landings tend to be small, averaging less than 1,000 lbs (ww) each year. Assuming only legal harvest occurs in the future, these few vessels would not be expected to benefit from the actions and alternatives considered in this amendment.

Participation in the South Atlantic rock shrimp portion of the shrimp fishery by vessels with RSLA permits was highly variable from 2015 through 2019, ranging from a high of 26 vessels in 2017 to a low of 12 vessels in 2018 (Table 3.3.1.2). Thus, only 12-25% of the vessels with RSLA permits have been active in the fishery in recent years. Further, the average number of active permitted vessels during these years (19) is considerably below the average number of active vessels from 2003-2007 (126) as reported in South Atlantic Shrimp FMP Amendment 7 (SAFMC 2008) and even further below the maximum number of vessels (150) the South Atlantic Council determined could sustainably operate, both biologically and economically, in the fishery as reported in South Atlantic Shrimp FMP Amendment 5 (GMFMC and SAFMC 2002).

Table 3.3.1.2 Landings and revenue statistics for active vessels harvesting South Atlantic rock shrimp with an RSLA permit, 2015-2019.

Year	Number of Active Permitted Vessels	Statistic	South Atlantic rock shrimp landings (lbs ww)	South Atlantic rock shrimp revenue	Other Atlantic revenue	Gulf revenue	Total revenue	Percent of total revenue is rock shrimp
2015	22	Maximum	158,221	$266,170	$803,973	$572,646	$1,013,092	54.0
		Total	1,057,109	$1,714,878	$7,466,726	$3,231,558	$12,413,162	N/A
		Mean	48,050	$77,949	$339,397	$146,889	$564,235	14.0
2016	17	Maximum	77,500	$235,602	$819,012	$414,873	$950,212	45.6
		Total	298,228	$858,685	$6,520,753	$1,055,134	$8,434,572	N/A
		Mean	17,543	$50,511	$383,574	$62,067	$496,151	9.9
2017	26	Maximum	392,387	$775,263	$716,209	$590,559	$1,213,936	85.1
		Total	3,104,624	$5,730,705	$8,702,959	$4,113,093	$18,546,757	N/A
		Mean	119,409	$220,412	$334,729	$158,196	$713,337	30.0
2018	12	Maximum	240,316	$379,146	$765,643	$312,500	$1,050,590	56.5
		Total	955,478	$1,538,819	$4,256,076	$1,013,015	$6,807,910	N/A
		Mean	79,623	$128,235	$354,673	$84,418	$567,326	23.0
2019	20	Maximum	170,338	$352,543	$982,153	$318,965	$983,395	100.0
		Total	941,112	$1,897,856	$8,438,659	$862,157	$11,198,671	N/A
		Mean	47,056	$94,893	$421,933	$43,108	$559,934	22.4

*Maximum values are not always with respect to the same vessel. Source: personal communication, Atlantic Coastal Cooperative Statistics Program (ACCSP, March 17, 2021 and personal communication, SEFSC, Feb, 22, 2021).

From 2015 through 2019, landings and revenue from South Atlantic rock shrimp were also at their highest in 2017, at around 3.1 million pounds whole weight (mp ww) and $5.73 million (2019$), respectively, but were lowest in 2016 at just over 298,000 lbs ww and about $859,000. These estimates reflect the high degree of variability that has existed in this portion of the fishery with respect to participation, landings, and revenue since its inception. In addition, average landings from 2015 through 2019 were 1,271,310 lbs ww, which is only 18.6% of the maximum sustainable yield (MSY) and optimum yield (OY) of 6,829,449 lbs ww for this portion of the fishery, as established in Comprehensive Sustainable Fisheries Act Amendment (SAFMC 1998b). Even the recent peak year landings of just over 3.1 mp ww in 2017 are only

45% of MSY and OY. Thus, the rock shrimp portion of the shrimp fishery has been consistently operating well below OY/MSY during this time.

Table 3.3.1.2 also illustrates that these vessels are highly dependent on revenue from species other than South Atlantic rock shrimp, which is one reason for the highly variable levels of participation, landings, and revenue in the portion of the fishery over time. While revenue from South Atlantic rock shrimp accounted for about 30% of their total revenue in 2017, it only accounted for about 10% of their total revenue in 2016. Over all five years, rock shrimp accounted for about 20% of these vessels' revenues on average. However, some vessels are much more dependent on revenue from South Atlantic rock shrimp, typically those with the highest landings from the fishery. It is common for 50% or more of these vessels' total revenues to come from South Atlantic rock shrimp landings.

Regardless of the year, most of their revenue comes from other Atlantic fisheries, with the vast majority coming from the Atlantic penaeid shrimp fisheries.[9] Of secondary importance is revenue from Gulf fisheries, the vast majority of which comes from the Gulf shrimp fishery. Thus, while still important to these vessels' operations, South Atlantic rock shrimp is typically only their 3rd most important source of revenue. Nonetheless, these vessels' total revenues appear to vary directly with revenue from South Atlantic rock shrimp landings, as average revenue from South Atlantic rock shrimp and total revenue per vessel were at their highest in 2017 ($220,412 and $713,337, respectively) and their lowest in 2016 ($50,511 and $496,151, respectively). The highest total revenue earned by a single vessel in a given year was about $1.21 million. Average revenue per vessel from the Atlantic penaeid shrimp fishery and Gulf shrimp fishery were also at their highest levels for these vessels in 2017, suggesting that economic performance between these shrimp fisheries is highly correlated, likely because they are affected by some of the same economic factors (e.g., fuel prices, macroeconomic conditions, and possibly shrimp imports).

An annual economic survey of federally permitted shrimp vessels has been conducted each year since 2009, including for vessels with RSLA permits. Economic returns and other economic performance estimates are produced for all permitted vessels as well as for only those that are active in each particular fishery. As previously noted, economic performance in shrimp fisheries is highly variable from year to year. Thus, a single year will likely not be indicative of typical or average economic performance in these fisheries over time. Further, given the significant declines in the number of active vessels with RSLA permits over time, the sample size in each year has become smaller over time as well, potentially reducing the accuracy and representativeness of the estimates in a single year. Thus, estimates from a single year would likely not be indicative of typical or average economic performance in these fisheries over a period of time. Estimates for all years from 2015-2019 are not available yet. However, estimates from 2017 and 2018 combined (the years with the highest and lowest number of active vessels with RSLA permits) were generated for the purposes of this amendment, specifically to demonstrate economic performance during this time. These estimates are provided in Table 3.3.1.3.

[9] According to recent landings data, the penaeid shrimp fishery now extends into waters off of Virginia, reasons for which deserve further investigation.

Vessels that target rock shrimp (active RSLA permitted vessels) typically have significantly higher annual gross revenues from fishing relative to vessels that primarily harvest penaeid shrimp (SAFMC 2020). In fact, the RSLA vessels' gross revenues tend to be significantly higher than the average federally permitted Gulf shrimp vessel (Liese 2018). In general, although vessels with higher gross revenues also have higher operating expenses, in this case, they also generated greater net cash flow, net revenue from operations, and economic returns. Compared to average economic performance for these vessels in 2011-2014 (SAFMC 2020), economic performance in 2017-2018 was generally lower.

Table 3.3.1.3. Economic and financial characteristics of an average South Atlantic active shrimp vessel with an RSLA permit, averaged across 2017-2018.

Number of observations	23
Balance Sheet	
Assets	$781,778
Liabilities	$37,795
Equity	$743,984
Cash Flow	
Inflow	$721,206
Atlantic penaeid shrimp	$323,451
Atlantic rock shrimp	$142,217
Gulf shrimp (any)	$249,079
Non-shrimp seafood	$6,385
Non-fishing revenue	$75
Outflow	$615,923
Net cash flow	$105,283
Income Statement	
Revenue (commercial fishing operations)	$721,131
Cost of Operations	$639,287
Variable costs – Non-labor	43.4%
Variable costs – Labor	27.1%
Fixed costs	29.5%
Net revenue from operations	$81,844
Net revenue before tax (profit or loss)	$80,496
Returns	
Economic Return	10.5%
Return on Equity	10.8%

Source: C. Liese, pers. comm., March 30, 2021.

Specifically, contrary to the other economic performance indicators, equity (the difference between asset value and liabilities) in these vessels was significantly higher on average in 2017-18 compared to 2011-2014, with equity increasing by about 45% on average due to a significant increase in the market value of these vessels in combination with a noticeable

decline in liabilities. In addition to equity, the three most important estimates of economic returns are net cash flow, net revenue from operations, and economic return on asset value. Of these measures, net revenue from operations most closely represents economic profits to the owner(s). Net cash flow is total annual revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and loan payments. Net revenue from operations is total annual revenue minus the costs for fuel, other supplies, hired crew, vessel repair and maintenance, insurance, overhead, and the opportunity cost of an owner's time as captain as well as the vessel's depreciation. Economic return on asset value is calculated by dividing the net revenue from operations by the vessel value.

Unlike equity, net cash flow, net revenue from operations and the economic return on asset value were noticeably lower in 2017-2018 compared to 2011-2014. Specifically, net cash flow decreased by about 19%, primarily because of higher costs but also because revenue from non-fishing activities decreased. Even though revenue from fishing was higher, net revenue from operations decreased by about 8% because operating costs increased more than fishing revenue. Economic return on asset value decreased by about 27% because of the significant increase in asset value combined with the decrease in net revenue from operations. Thus, in general, the average economic performance of the active RSLA fleet declined from 2011-2014 to 2017-2018.

3.3.2 Dealers and Processors

Table 3.3.2.1 provides selected characteristics for South Atlantic rock shrimp dealers from 2015 through 2019. During this time, the number of South Atlantic rock shrimp dealers was relatively stable, ranging from 10 in 2015 to 7 in 2016 and 2018. The value of rock shrimp purchases in certain years differs slightly from the information provided in Table 3.3.1.2 because Table 3.3.2.1 includes landings from the shrimp vessels that did not possess RSLA permits but did possess an SPA and/or SPGM permit. Because such landings are minimal in each year, the trend with respect to the value of rock shrimp landings is the same. However, important differences exist otherwise between rock shrimp vessels and rock shrimp dealers.

Table 3.3.2.1. Selected characteristics of South Atlantic rock shrimp dealers, 2015-2019.* Dollar values are in 2019 dollars.

Year	Number of Dealers	Statistic	South Atlantic rock shrimp purchases	Other purchase	Total purchase	Percent of total purchases is rock shrimp	Average price/lb (ww) rock shrimp
2015	10	Maximum	$698,821	$7,556,907	$8,226,807	35.5	
		Total	$1,723,068	$23,398,272	$25,121,340	N/A	$1.62
		Mean	$172,307	$2,339,827	$2,512,134	9.4	
2016	7	Maximum	$423,629	$7,333,159	$7,545,142	13.5	
		Total	$858,685	$21,941,858	$22,800,543	N/A	$2.88
		Mean	$122,669	$3,134,551	$3,257,220	4.0	
2017	9	Maximum	$2,136,969	$8,483,337	$10,117,846	47.1	
		Total	$5,733,086	$22,505,200	$28,238,286	N/A	$1.85
		Mean	$637,010	$2,500,578	$3,137,587	20.7	
2018	7	Maximum	$611,973	$8,515,678	$8,535,773	23.4	
		Total	$1,538,875	$29,316,576	$30,855,451	N/A	$1.61
		Mean	$219,839	$4,188,082	$4,407,922	8.2	
2019	8	Maximum	$806,622	$10,117,121	$10,666,948	25.8	
		Total	$1,898,388	$28,194,817	$30,093,205	N/A	$2.02
		Mean	$237,298	$3,524,352	$3,761,651	7.2	

*A South Atlantic rock shrimp dealer is a dealer that purchased rock shrimp harvested from South Atlantic waters. Maximum values are not always with respect to the same dealer. Source: personal communication, ACCSP, March 17, 2021.

As with rock shrimp vessels, the dependency of rock shrimp dealers on purchases of rock shrimp varies from year to year depending on the value of rock shrimp landings. Thus, while rock shrimp purchases accounted for almost 21% of these dealers' total seafood purchases in the recent peak year of 2017, they only accounted for about 4% in 2018 when landings were low. From 2015-2019, rock shrimp purchases accounted for about 10% of these dealers' total seafood purchases. Thus, on average, dealers are far less dependent on rock shrimp compared to vessels. But like some vessels, some dealers are relatively more dependent than other dealers, with rock shrimp purchases often accounting for 25% to as much as 47% of their total seafood purchases. Nonetheless, even these dealers are still relatively less dependent on rock shrimp compared to their vessel counterparts. These are typical findings in most fisheries as dealers have greater flexibility with respect to the species they purchase compared to vessels and the flexibility they

have regarding the species they harvest (i.e., vessels are more specialized than dealers). This relative lack of dependency is also partly attributable to the economic size of their operations, as rock shrimp dealers' total seafood purchases are about 4-5 times greater than the average total revenue of a rock shrimp vessel.

Another example of dealers' flexibility, and thus ability to adjust to changes in landings, can be seen in these data. Specifically, dealers were able to take advantage of the increase in rock shrimp landings from 2016 to 2017, which was reflected by an increase in their total seafood purchases in 2017. However, when rock shrimp landings decreased significantly in 2018, these dealers' total seafood purchases increased significantly. Given that Atlantic penaeid shrimp landings also decreased significantly in 2018, rock shrimp dealers clearly have alternative species they can purchase to maintain and even increase their seafood sales.

Table 3.3.2.1 also illustrates that, like other aspects of the South Atlantic rock shrimp portion of the shrimp fishery, the average ex-vessel price of rock shrimp is also highly variable from year to year, ranging from a low of $1.61/lb. (ww) in 2018 to a high of $2.88/lb. (ww) in 2016. Although a more in-depth analysis would be needed using more data and more detailed data, landings were lowest in 2016, suggesting that landings and prices may be indirectly related. Such relationships exist for specialized products (i.e., there are relatively few good substitutes) that are also highly localized in their production and consumption. That is not the case for penaeid shrimp, as they directly compete with imported shrimp. However, rock shrimp are a somewhat unique shrimp species with respect to appearance and taste, and directly comparable species are not imported. That said, even though South Atlantic rock shrimp landings decreased significantly in 2018, so did the average ex-vessel price. Further, although landings of rock shrimp in the Gulf were also at a recent high in 2017, average ex-vessel price in the Gulf was also at its recent high in 2017.[10] And when Gulf rock shrimp landings similarly declined in 2018, the average ex-vessel price also declined, as in the South Atlantic. Thus, other factors than total landings affect average ex-vessel price. Outside of imports, one likely factor is changes in the average size of shrimp from year to year. As with penaeid shrimp, smaller rock shrimp tend to command a lower ex-vessel price. Thus, if the average size of the landed shrimp declines, the average ex-vessel price will also decline, all other things being equal. More research is needed on changes in ex-vessel prices over time.

With respect to processors, it is not clear whether rock shrimp harvested from the South Atlantic are still being processed or where they are being processed. An examination of processor data in the South Atlantic indicated that no rock shrimp were processed in the South Atlantic from 2015-2019 (pers. comm., Office of Science and Technology, Feb. 11, 2021). Rock shrimp were processed in the Gulf during this time, but the amount processed was below the amount landed in the Gulf, which is not indicative of South Atlantic rock shrimp being processed in the Gulf as has been the case in the past (SAFMC 2008). Because the processor survey is voluntary in the Southeast Region, it is possible that data could be missing for companies that process South Atlantic rock shrimp. However, it is equally if not more plausible that rock shrimp dealers are

[10] Data extracted on March 1, 2021, from https://www.fisheries.noaa.gov/foss/f?p=215:200/.

selling rock shrimp directly to retail outlets (e.g., seafood markets and grocery stores) and restaurants, in which case they would not be processed. Further, because all processors are also dealers, potential processors of South Atlantic rock shrimp would be a subset of the rock shrimp dealers discussed previously. Although all of their processing activity and the total value of their processed product would not be accounted for in Table 3.3.2.1, the analysis does allow for the fact that those businesses could be indirectly affected by the actions and alternatives in this amendment.

3.3.3 Economic Impacts of the South Atlantic Rock Shrimp Fishery

The commercial harvest and subsequent sales and consumption of shrimp generates business activity as fishermen expend funds to harvest shrimp and consumers spend money on goods and services, such as shrimp purchased at a local seafood 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 seafood markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would likely spend their money on substitute goods and services. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic impacts may be distributed through regional markets.

Economic impact models are used to determine the current economic impacts of an industry or sector, as reflected by these measures, as well as changes expected to occur if expenditures or gross revenues change in a particular industry or sector. Economic impacts are generally characterized in terms of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts, which represent the contribution made to the U.S. Gross Domestic Product, that accrue to the local, state, regional and the national economy as a result of expenditures or gross revenues. These impacts should not be added together because this would result in double counting. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. Estimates were derived using the model developed for and applied in NMFS (2018).[11]

In addition to these types of impacts, economic impact models can be used to determine the sources of the impacts. Each impact can be broken down into direct, indirect, and induced economic impacts. "Direct" economic impacts are the results of the money initially spent in the study area (e.g., country, region, state, or community) by the fishery or industry being studied. This includes money spent to pay for labor, supplies, raw materials, and operating expenses. The direct economic impacts from the initial spending create additional activity in the local economy, i.e., "indirect" economic impacts. Indirect economic impacts are the results of business-to-business transactions indirectly caused by the direct impacts. For example, businesses initially benefiting from the direct impacts will subsequently increase spending at other local businesses. The indirect economic impact is a measure of this increase in business-to-business activity,

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

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.

Average gross revenue from rock shrimp harvested from South Atlantic waters averaged about $2.35 million between 2015 and 2019 (2019 dollars). Estimates of the economic impacts generated as a result of this revenue are provided in Table 3.3.3.1. According to this information, South Atlantic rock shrimp landings by vessels with RSLA permits generated employment, income, value added, and output (sales) impacts of 283 jobs, $8 million, $11.5 million, and $22.8 million, respectively.

Table 3.3.3.1. Economic impacts of the South Atlantic rock shrimp portion of the shrimp fishery. All monetary estimates are in thousands of 2019 dollars and employment is measured in full-time equivalent jobs.

	DIRECT	INDIRECT	INDUCED	TOTAL
Harvesters				
Employment impacts	40	8	9	56
Income impacts	977	276	481	1,735
Total value added impacts	1,042	989	831	2,862
Output impacts	2,350	2,284	1,597	6,232
Primary dealers/processors				
Employment impacts	11	4	7	22
Income impacts	414	382	361	1,157
Total value added impacts	441	487	679	1,608
Output impacts	1,333	1,004	1,328	3,665
Secondary wholesalers/distributors				
Employment impacts	3	1	3	6
Income impacts	134	40	141	315
Total value added impacts	143	67	241	451
Output impacts	359	131	469	959
Grocers				
Employment impacts	17	2	4	22
Income impacts	397	131	198	726
Total value added impacts	423	211	335	970
Output impacts	679	343	658	1,680
Restaurants				
Employment impacts	143	9	23	176
Income impacts	2,191	656	1,240	4,087
Total value added impacts	2,335	1,173	2,089	5,597
Output impacts	4,270	1,836	4,122	10,228
Harvesters and seafood industry				
Employment impacts	213	24	46	283
Income impacts	4,113	1,485	2,421	8,019
Total value added impacts	4,385	2,928	4,175	11,488
Output impacts	8,991	5,598	8,174	22,763

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2018).3.3.4 Imports

On average, between 2015 and 2019, the United States has imported more than 1.4 billion lbs (product weight) of shrimp products annually. The volume of shrimp imports steadily increased during this time, rising by almost 19%, with the largest increase occurring in 2017. The value of imported shrimp products averaged almost $6 billion (2019 dollars) annually between 2015 and 2019. Contrary to the trend in volume, the value of shrimp imports decreased after 2017, by more than 8%, from 2017 to 2019, suggesting a significant decline in the average price of imported shrimp during this time. Interestingly, the increase in the volume of imported shrimp and decline in the price of imported shrimp in 2018 and 2019 mirrors the

decline in the average ex-vessel price of rock shrimp, suggesting that imports may be affecting the ex-vessel price of rock shrimp. Table 3.3.4.1 provides annual pounds and value of shrimp imports and the share of imports by country of origin.

Table 3.3.4.1 Annual pounds and value of shrimp imports and share of imports by country, 2015-2019.

	2015	**2016**	**2017**	**2018**	**2019**
Pounds of shrimp imports (product weight, million pounds)	1,291,512	1,330,305	1,463,800	1,532,623	1,539,491
Value of shrimp imports (millions $, nominal)	$5,435	$5,705	$6,545	$6,236	$6,006
Value of shrimp imports (millions $, 2019$)	$5,823	$6,047	$6,807	$6,343	$6,006
Share of Imports by Country					
India	23.4	26.2	33.2	35.5	40.4
Indonesia	20.2	19.4	18.1	19.5	18.9
Vietnam	12.1	12.0	9.7	9.9	9.7
Ecuador	11.7	10.3	8.8	8.4	9.2
Thailand	13.8	14.5	12.4	8.9	7.9
Mexico	5.9	5.2	5.2	5.4	5.1
China*	3.5	4.1	5.1	4.5	1.8
All others	9.4	8.3	7.5	7.9	7.0

Source: Pounds of Shrimp Imports (GOM Data Management, pers. comm., Feb. 24, 2021). Values and market share by country (Office of Science and Technology, pers. comm., April 5, 2021). *Does not include imports from Hong Kong, Taipei, or Macao.

The distribution of market share between countries exporting shrimp to the United States, as measured by value, has changed significantly over time. Thailand was the primary country of origin for shrimp products imported into the United States between 2007 and 2012, and in fact typically accounted for about one-third of all imports during that time. Vietnam and Indonesia were the next largest exporting countries to the United States, but still only accounted for about 20% of shrimp imports during that time. However, the market share of imports between countries changed dramatically in 2012 and 2013 as Thailand's imports decreased significantly due to a breakout of Early Mortality Syndrome. As imports of shrimp from Thailand decreased, other countries took advantage of the situation by increasing their exports of shrimp to the United States and, as a result, have increased their market share in recent years. Most notably, although India only represented 5% of the market back in 2007, it has essentially captured the market share Thailand used to have and represented more than 40% of the import market as of 2019. Although Indonesia was able to maintain its market share at around 19% from 2015 through 2019, the market shares for most other major exporting countries (Vietnam, Ecuador, Thailand, and China) have declined during this time.

3.4 Social Environment

THIS SECTION WAS COMPLETED IN 2021 AND HAS NOT BEEN UPDATED

This section provides the background for the proposed action, which is evaluated in Chapter 4. Rock shrimp permits by state and vessels with landings of rock shrimp by state are included to provide information on the geographic distribution of fishing involvement. Descriptions of the top communities involved in commercial rock shrimp are included, as well as all communities with vessels with rock shrimp landings. Community level data are presented to meet the requirements of National Standard 8 of the Magnuson-Stevens Act, which requires the consideration of the importance of fishery resources to human communities when changes to fishing regulations are considered. Lastly, social vulnerability data are presented to assess the potential for environmental justice concerns. Additional detailed information about communities in the following analysis can be found on the NMFS Southeast Regional Office's (SERO) Community Snapshots website.[12]

3.4.1 Permits

As of April 7, 2021, there were 101 federally permitted commercial South Atlantic rock shrimp vessels (valid and renewable RSLA permits, NMFS SERO Permits Office). Most South Atlantic rock shrimp permits are issued to individuals in Alabama (32.7% of South Atlantic rock shrimp vessels), Florida (25.7%), and North Carolina (21.8%, NMFS SERO Permits Office, April 7, 2021). Residents of Georgia, South Carolina, and other states (Mississippi, New Jersey, Texas, and Virginia) also hold commercial rock shrimp permits, but these states represent a smaller percentage of the total number of issued permits.

South Atlantic rock shrimp permits are held by individuals with mailing addresses in 43 communities (NMFS SERO Permits Office, April 7, 2021). Communities with the most commercial rock shrimp permits are located in Alabama, North Carolina, Florida, Mississippi, and Georgia (Table 3.4.1.1). Communities with most of South Atlantic rock shrimp permits are not confined to this region. Several communities located in the Gulf are among the top communities with South Atlantic rock shrimp permits. These Gulf vessels are likely participants who seasonally migrate to South Atlantic waters, particularly during boom years of the fishery and have done so since the mid-1990s. The communities with the most rock shrimp permits are Bayou La Batre, Alabama (13.9% of rock shrimp permits); Oriental, North Carolina (9.9%); and Jacksonville, Florida (7.9%).

[12] https://www.fisheries.noaa.gov/southeast/socioeconomics/snapshots-human-communities-and-fisheries-gulf-mexico-and-south-atlantic

Table 3.4.1.1 Top communities by number of South Atlantic rock shrimp permits.

State	Community	Rock Shrimp Permits (RSLA)
AL	Bayou La Batre	14
NC	Oriental	10
FL	Jacksonville	8
AL	Irvington	6
MS	Pascagoula	4
NC	Swan Quarter	4
AL	Coden	3
AL	Mobile	3
FL	Fernandina	3
GA	Brunswick	3
NC	Hobucken	3

Source: SERO Permit Office, April 7, 2021.

3.4.2 Vessels with Landings

A large portion of federally permitted rock shrimp vessels are not active in the fishery. From 2015 to 2019, the annual number of federally permitted rock shrimp vessels ranged from 136 to 125 vessels (RSLA permits, SERO Permits Office). However, during the same time period a total of 48 unique vessels landed rock shrimp (personal communication, ACCSP, March 17, 2021, and personal communication SEFSC, February 22, 2021).

Vessels with landings were matched to federal permit data in order to link vessels to a particular community. The primary mailing address of the permit holder was used to determine the community and state. The address associated with some permits changed over time because the permit was transferred; therefore, some vessels are included more than one time in the following analysis if there was more than one community of residence for permitted individual during the time period. Approximately nine vessels with landings could not be matched with an address and are not included; therefore, the following analysis includes a total of 39 vessels.

The majority of rock shrimp vessels with landings reported addresses in Florida (43.6% of rock shrimp vessels with landings), Alabama (20.5%), and North Carolina (20.5%, personal communication, ACCSP, March 17, 2021; personal communication SEFSC, February 22, 2021; and SERO Permits Office, 2015-2019). Residents of Georgia and other states (Mississippi and Virginia) also made landings of rock shrimp, but these states represent a smaller percentage of the total number of vessels with landings of rock shrimp.

Vessels with landings of South Atlantic rock shrimp were linked to individuals with mailing addresses in 21 communities (Table 3.4.2.1). The communities with the most vessels with rock

shrimp landings are Jacksonville, Florida (17.9% of vessels with rock shrimp landings); Oriental, North Carolina (15.4%); and Mobile, Alabama (7.7%, personal communication, ACCSP, March 17, 2021; personal communication SEFSC, February 22, 2021; and SERO Permits Office, 2015-2019).

Table 3.4.2.1. All communities with vessels with landings of South Atlantic rock shrimp in order of number of vessels by community, 2015-2019.

State	Community
FL	Jacksonville
NC	Oriental
AL	Mobile
FL	Fernandina
FL	Panama City
FL	Southport
FL	Youngtown
GA	Brunswick
AL	Bayou La Batre
AL	Citronelle
AL	Fairhope
AL	Irvington
AL	Theodore
FL	Atlantic Beach
FL	Cape Canaveral
GA	Richmond Hill
MS	Pascagoula
MS	Vancleave
NC	Maggie Valley
NC	New Bern
VA	Hampton

Source: Personal communication, ACCSP, March 17, 2021; personal communication SEFSC, February 22, 2021; and SERO Permits Office.

3.4.3 Regional Quotient

The descriptions of communities include information about the top communities based on a "regional quotient" (RQ) of commercial landings for rock shrimp. 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.

Figure 3.4.3.1 includes the top rock shrimp communities by regional quotient landings in pounds from 2015 to 2019. Communities from the South Atlantic and Gulf are included because landings of rock shrimp from South Atlantic waters could be landed at dealers in Gulf states. Communities are presented in order of their summed total landings for all years. The top rock shrimp communities are located in Florida, Alabama, Georgia, and North Carolina. The top three rock shrimp communities (Titusville, Mayport, and Jacksonville) are located along the east coast of Florida, and are in relatively close proximity to the OHAPC. A variation in annual landings and the location of those landings is evident in Figure 3.4.3.1.

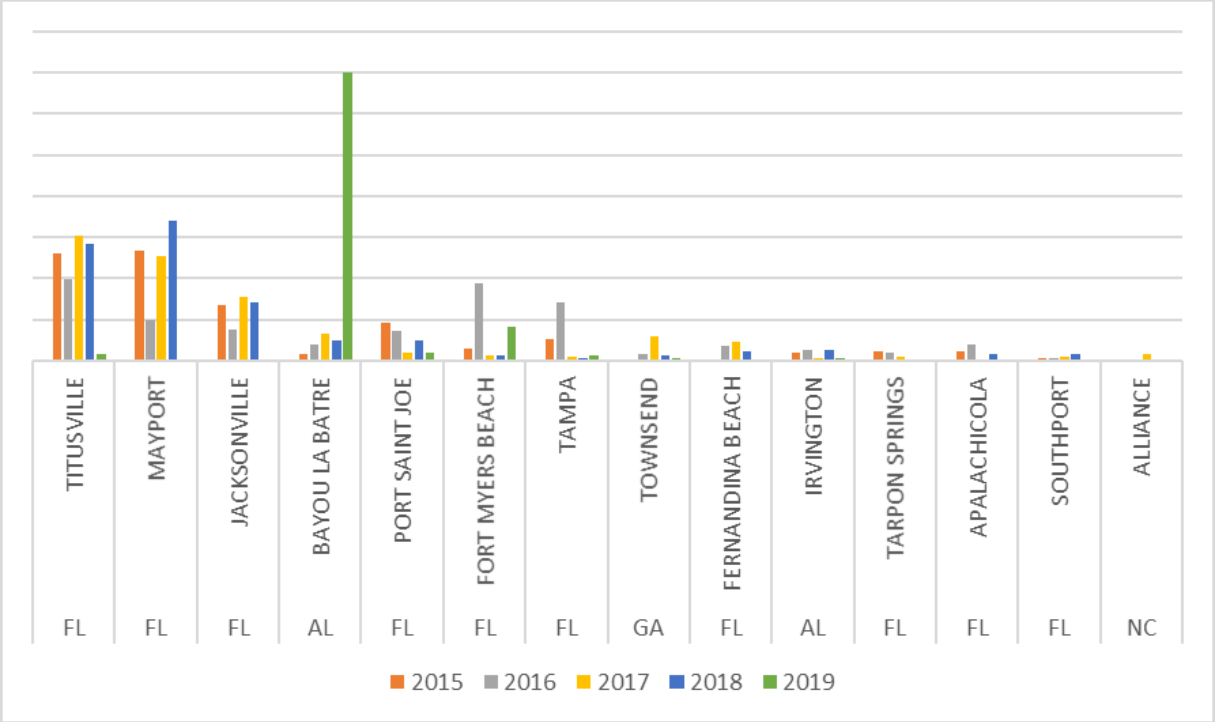

Figure 3.4.3.1. Top communities by pounds RQ of rock shrimp (2015-2019). The actual RQ values (y-axis) are omitted from the figure to maintain confidentiality. Communities are presented in order of their summed total landings for all years.

Source: SERO, Community ALS 2015-2019.

3.5Administrative 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 the Secretary of Commerce (Secretary) 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 to that Council 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 needing conservation and management within each Council's jurisdiction. Regional Councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for collecting and providing the data necessary for the Councils to prepare fishery management plans and for promulgating regulations to implement approved plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws. In most cases, the Secretary has delegated this authority to NMFS.

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

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

3.5.2 State Fishery Management

The state governments of North Carolina, South Carolina, Georgia, and Florida have the authority to manage fisheries that occur in waters extending three nautical miles from their respective shorelines. North Carolina's marine fisheries are managed by the Marine Fisheries Division of the North Carolina Department of Environmental Quality. The Marine Resources Division of the South Carolina Department of Natural Resources manages South Carolina's

marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission is responsible for managing Florida's marine fisheries. Each state fishery management agency has a designated seat on the. 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 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 US Coast Guard (USCG) have the authority and the responsibility to enforce Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

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

The NOAA Office of General Counsel Penalty Policy and Penalty Schedule is available online at https://www.noaa.gov/general-counsel/gc-enforcement-section/penalty-policy-and-schedules

Chapter 4. Environmental Effects

Action 1. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

Alternatives

1. (No Action). Do not establish a shrimp fishery access area.

2. (Preferred) Establish a shrimp fishery access area that is 14.10 NM^2 along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

3. Establish a shrimp fishery access area that is 18.87 NM^2 along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

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

4.1.1. Biological Effects

Alternative 1 (No Action) would not establish a shrimp fishery access area (SFAA) along the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) and would retain the existing closure through the entire northern extension of the OHAPC. **Preferred Alternative 2** and **Alternative 3** would establish SFAAs of approximately 14.10 square nautical miles (NM^2) and 18.87 NM^2, respectively, and would allow rock shrimp fishermen with a commercial limited access vessel permit for Rock Shrimp South Atlantic EEZ to trawl in the discrete area which was the fishery had previously operated until August 2015. However, use of all other bottom tending gear and anchoring would continue to remain prohibited within the SFAA.

Direct Effects on Rock Shrimp

While rock shrimp are mostly found on sand bottom habitats, they also rely on deepwater coral ecosystems for protection from predators and to find food (See Chapter 3.2.2). Cobb et al. (1973) found the inshore distribution of rock shrimp to be associated with terrigenous and biogenic sand and only sporadically on mud, however, rock shrimp may also utilize hard bottom and coral habitat areas (SAFMC 1996). This habitat was confirmed by scientific sampling, which captured large amounts of rock shrimp in and around the OHAPC prior to its designation and prior to significant exploitation and development of the directed fishery (Cobb et al. 1973).

Although shrimp fishermen affirm that they avoid hard bottom habitat when trawling to avoid snags and gear loss, and rock shrimp prefer sand bottom, there is still a chance for gear interactions with coral mounds near the eastern edge of SFAA. There is potential for direct and indirect negative impacts to deepwater coral from trawling, primarily from physical damage from the nets and doors. However, shrimpers utilize GPS and VMS tools to ensure there is a buffer between known coral pinnacles and shrimping activity so the potential for damage to occur is minimized.

Changes in benthic community abundance and composition can result from this damage, in addition to degraded species diversity and the loss of corals and sponges, which play a keystone role in providing habitat for a large number of other organisms (Fosså et al. 2002; Gage et al. 2005). During the 1980s and 1990s, bottom trawling within the *Oculina* ecosystem, primarily for rock shrimp and brown shrimp, was a major cause of habitat destruction (Reed et al. 2007). The calico scallop (*Argopecten gibbus*) fishery was another major source of habitat degradation in this area. This fishery started before the rock shrimp fishery and operated in tandem in the 1980s until the resource was depleted in the early 2000s. As the resource was being depleted, scallop fishermen fishing on the scallop beds off of Cape Canaveral, Florida, began to use scallop dredges in between the *Oculina* pinnacles which resulted in damage to the reef. Local rock shrimp fishermen brought the damage to the reef from this fishery to the Council's attention at meetings in the early 1990s (SAFMC 2023).

Indirect Effects on Rock Shrimp

The indirect effect on the rock shrimp fishery is the risk of overfishing from increased effort in the SFAA. While targeted fishing would likely occur in the SFAA under both **Preferred Alternative 2** and **Alternative 3**, any potential negative biological impacts to the rock shrimp population are prevented by the fishery's maximum sustainable yield and accountability measures (maximum fishing mortality threshold of 14,687,775 pounds landed for two consecutive years), which are designed to prevent overfishing. The presence of rock shrimp in the proposed areas is highly variable due to the species' migratory nature and changes in water conditions; however, access to these areas is very important in years when rock shrimp are present. Historical fishing effort in the northern extension of the OHAPC and the proposed SFAA was low, averaging less than 1.8% of the total number of VMS fishing points, a proxy for fishing activity (SAFMC, 2021). Additionally, the rock shrimp fishery has not achieved its optimum yield (OY) (4.912927 million pounds heads on) target since 2004.

Expected Effects on Snapper Grouper Species

Preferred Alternative 2 and **Alternative 3** are expected to have minimal or no impact on snapper grouper species caught as bycatch in the rock shrimp fishery. The Bycatch Practicability Analysis (BPA) (Appendix D) also highlights that only one managed snapper grouper species, black sea bass, was in the top 30 bycatch species in the South Atlantic rock shrimp fishery from 2018-2022 and at a very low amount (5 kilograms, Table D.1.2.1). Additionally, historical fishing effort in the proposed area has been low, and the impacts on snapper grouper are expected to be minimal. Lastly, during the SEFSC's 2022 visual survey the area was described as "Very little biota of any species was seen; we observed two sea stars, 14 hydroids and numerous small sand mounds likely produced by infaunal worms or clams. By far, the most abundant biogenic items were small clumps of decaying Sargassum macroalgae."(Appendix G).

Expected Effects on Protected Species

The action in this plan amendment would not significantly modify the way in which the rock shrimp portion of the shrimp fishery is prosecuted in terms of gear types. Historical fishing effort in the proposed areas was variable and future fishing effort is anticipated to be similar to

historical effort. Therefore, there are no additional impacts on ESA-listed species or designated critical habitats anticipated as a result of this action (see Section 3.2.3 for a more detailed description of ESA-listed species and critical habitat in the action area).

Direct Effects on Deepwater Coral and Essential Fish Habitat (EFH)

Coral is defined as an essential fish habitat by the Council. Additionally, the area that will be impacted has been identified as a Habitat Area of Particular Concern (HAPC), so all impacts listed below are impacts to coral as well as impacts to EFH. The direct effects possible under both **Preferred Alternative 2** and **Alternative 3** are direct interaction of shrimp trawl gear and coral pinnacles. The SFAA is intended to be in a location where coral presence is not indicated. If coral pinnacles are present within the SFAA, gear interactions would be expected, however, in 2022, the Southeast Fisheries Science Center (SEFSC) conducted a visual survey of the area proposed in the preferred alternative. They aimed to classify the bottom type as either live (standing), dead (standing), rubble, or sand. To collect information on bottom type, the crew aboard the R/V *Weatherbird* utilized a towed camera system. The crew executed 14 dives, although only 2 of those dives were able to classify bottom type. No *Oculina* coral – living, dead or rubble, was detected during any of the dives in or adjacent to the SFAA. From their conclusions, the survey did note, however, that it could not be stated definitively that no live *Oculina* colonies existed within the proposed SFAA. Based on existing multibeam bathymetry of the entire proposed SFAA, which shows only low or no relief, the study predicted that the likelihood of live *Oculina* is very low (Appendix G).

In June 2022 the National Centers for Coastal Ocean Science (NCCOS) published a report describing a model to predict the distribution of deepwater corals off the southeastern US. The study area included waters 150-3,500 meters off the east coast of Florida. The predictive model synthesized observations of coral presence-absence from still images and video transects from 20 field studies and measures of seafloor topography and physical oceanography to predict the presence and relative genus richness for 23 genera of corals. The model predicted low relative genus richness for the proposed SFAAs (Poti 2022, Figure 4.1.1.1). This predictive model was presented to the SAFMC's SSC. The SSC reviewed this model and found it suitable to use in management in April 2023.

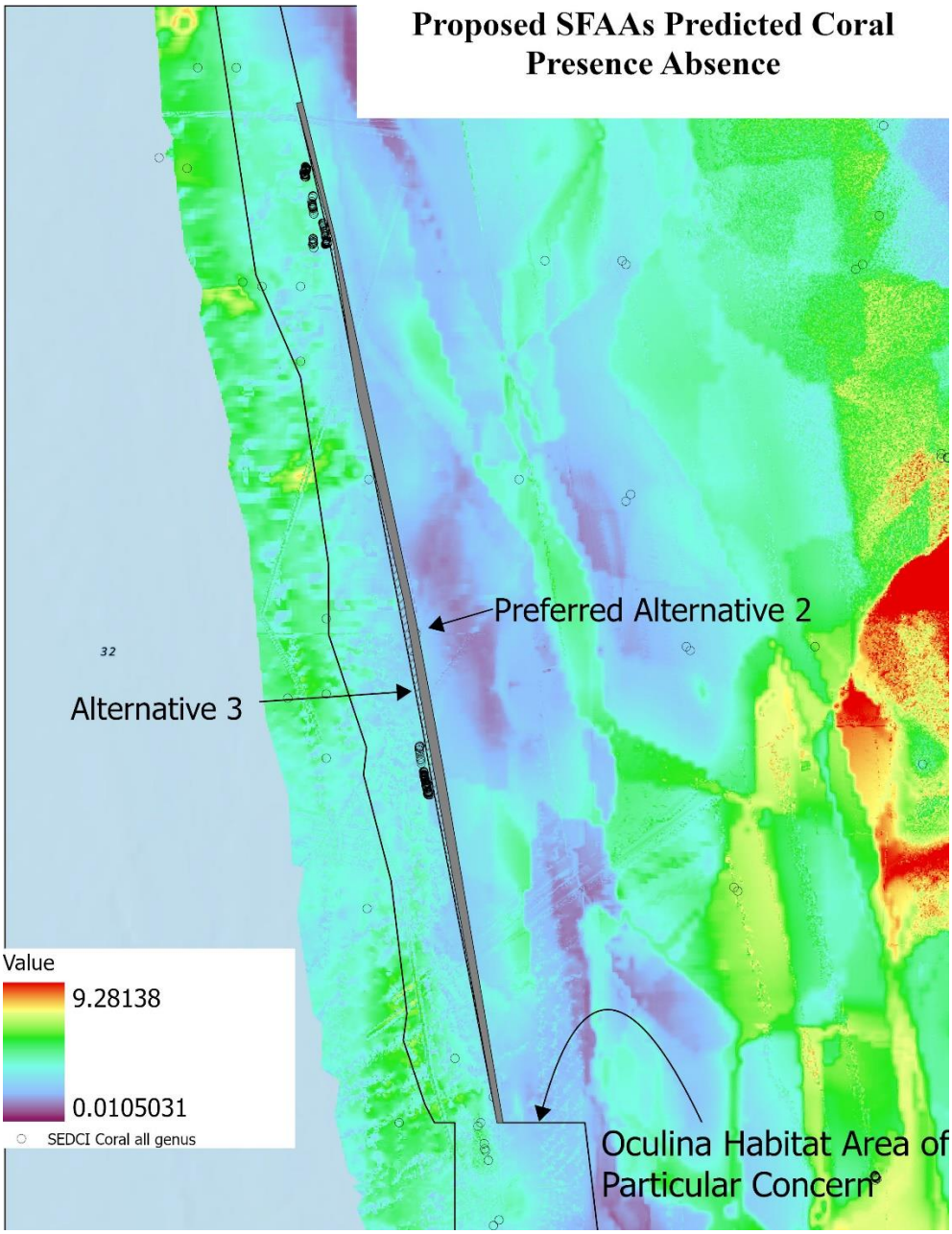

Figure 4.1.1.1. Predictability analysis of coral genus richness within the proposed SFAA. Red and Yellows are areas of higher predicted genus richness for corals. Purples and blues are areas of lower predicted genus richness for coral (Poti, 2022). Circles are known coral locations idetified by the Southeast Deep Coral Initiative .

In addition to the 2022 visual survey, in April 2025, the National Oceanic and Atmospheric Administration (NOAA) Ship *Nancy Foster* performed a mapping trip in the proposed preferred alternative SFAA. This mapping trip collected bathymetry and backscatter data at 2-meter (m) resolution across a 14.10 NM^2 area, coordinating closely with **Preferred Alternative 2** and **Alternative** 3 (Figure 4.1.1.2). Mapping showed that mound features formed by *Oculina* corals

were not evident in the proposed SFAA (Appendix F). Neither the 2022 visual survey nor the 2025 acoustic survey reported live or dead *Oculina* coral within the proposed SFAAs.

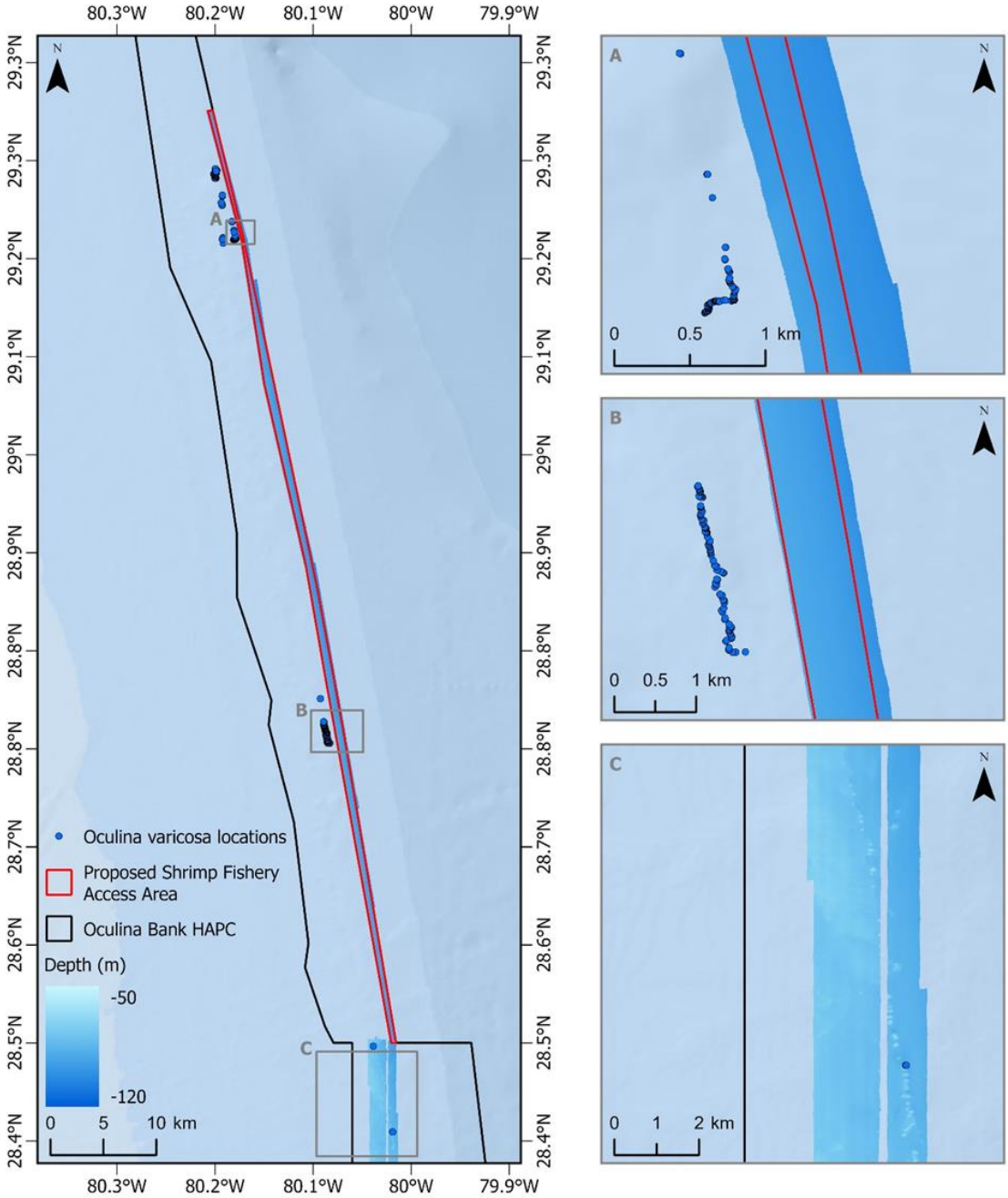

Figure 4.1.1.2. *Oculina varicosa* colonies have been observed 360-1,580 m west of the proposed SFAA. *Oculina* mounds are not evident in multibeam bathymetry collected by NOAA Ship *Nancy Foster* in April 2025 inside the proposed SFAA (e.g., panels A and B).

The degree and likelihood of potential direct biological impacts from bottom tending fishing gear on deepwater coral in the SFAA as a result of **Preferred Alternative 2** and **Alternative 3** are

low based on the current habitat mapping, predictive modeling, and habitat characterization. While no high relief mounds are present, low-relief hard bottoms and coral rubble could be providing substrate available for coral recruitment and recovery from previous trawling events. In addition to a lack of evidence of coral pinnacles present in the proposed SFAA under **Preferred Alternative 2**, rock shrimp vessels that would be allowed to fish in the proposed SFAAs are required to carry a vessel monitoring system (VMS) to fish for rock shrimp. Therefore, VMS data are a source of vessel operating information, and VMS positions that correspond to a vessel moving at speeds between 2 and 4 knots are used as a proxy for fishing activity. Before the implementation of Coral Amendment 8 in 2015, rock shrimping predominantly occurred east of the northern boundary of the OHAPC implemented in Coral Amendment 8. Rock shrimp fishing inside the edge of the boundary accounted for 1.76% of all fishing points from VMS from 2003 through 2014, 2.20% of positions during 2013, and 8.50% of positions during 2014, based on historic trawling operations as represented by VMS data (SAFMC, 2021).

No information on fishing activity from VMS data exists from within the OHAPC from 2015 to present since trawling within the area was prohibited through the implementation of Coral Amendment 8 (final rule effective August 17, 2015, SAFMC 2013). The final rule for Coral Amendment 8 required rock shrimp vessels transiting through the OHAPC to maintain a minimum speed of no less than 5 knots as determined by a VMS, which transmits vessel location at a positioning rate acceptable to law enforcement to identify transit. Currently, when a rock shrimp vessel with rock shrimp on board transits the OHAPC, the VMS on that vessel must transmit at a minimum ping rate of 1 ping per 5 minutes. This amendment will not modify the transit provision for the OHAPC and rock shrimp vessels will need to continue to maintain a transmission rate of 1 ping per 5 minutes whether transiting through the OHAPC or fishing within the proposed SFAA.

Indirect Effects on Deepwater Coral and Essential Fish Habitat (EFH)

Indirect effects on coral, which is defined as EFH, could result from suspended benthic sediments created while trawling the bottom for rock shrimp. Increased sedimentation can cause smothering and burial of coral polyps, shading, tissue necrosis, population explosions of bacteria in coral mucus, and generally reduces recruitment, survival, and settlement of coral larvae (Erftemeijer et al. 2012). Coral recruits are particularly susceptible to sedimentation and an increase in fine sediment can significantly reduce coral recruit survival (Fourney and Figueiredo 2017), however, little is known about the effects of sedimentation on *Oculina* and other sensitive species in the OHAPC ecosystem from trawling.

The sediments on shelf-edge *Oculina* reefs are relatively fine and have a higher composition of muds (14.4% mud) compared to sediments in shallow coral reef counterparts (Hoskin et al. 1987). In addition, areas east of the high relief *Oculina* mounds have a higher (29%) average percentage of muds (Hoskin et al. 1987). Fine sediments tend to have greater negative effects on corals than coarse sediments. Coral experts and members of the South Atlantic Fishery Management Council's (Council) Coral Advisory Panel (AP) and Habitat and Ecosystem AP suggested that establishing a protective buffer between known coral habitat and fishing grounds

would be prudent to prevent adverse impacts to coral colonies. However, research has not established what the optimal buffer distance should be.

From a study examining the size, duration, and composition of sediment plumes from multiple trawl types in the Mediterranean Sea, lateral plume spreading depends strongly on current variability. This study observed plumes spreading for hundreds of meters laterally in the hours after trawling (Durrieu de Madrona et al. 2005). Therefore, more information on the seafloor current direction, strength, and particle size/weight would aid prediction of a sediment plume swath created by trawling activities, and ultimately inform decisions regarding trawl distance from known corals. Based on similar research done in Scotland by O'Neill et. al., an initial trawling plume can be around 10 meters high and 42 meters wide, resulting in elevated turbidity. While the plume disperses and its turbidity decays within hours, the fine particles can linger and contribute to elevated background turbidity levels. A study using a multibeam echosounder demonstrated that sediment plumes behind a trawl door and a roller clump decrease in concentration with distance, but the plumes themselves can be detected at distances greater than 100 meters (O'Neill et al 2013).

Depending on the direction and magnitude of water currents in the affected area, shrimp trawls could create sediment plumes during fishing operations that could be transported to coral habitats. Reed (2006) describes the current flow for the Oculina Habitat Area of Particular Concern (OHAPC) as: " the northerly flowing Florida Current in the region of the Oculina reefs typically only extends down to a depth of 50-60 meters. The reefs are often inundated with a turbid, bottom nepheloid layer, and bottom currents average 8.6 cm s^{-1} but may exceed 50 cm s^{-1} (1 knot), with currents of 50-100 cm s^{-1} also occurring."

Given the western boundaries of the SFAA are approximately 360-1580 m from known Oculina pinnacles(Appendix F) and the consistently strong south to north current that exists within the OHAPC (Reed, 2006 and Scanlon, 1999), sediment would be expected to move parallel to known coral pinnacles and have a minimal impact on the coral itself unless upwellings push the water inland (towards the pinnacles); thus damage by sediment should be limited.

In a review of the frequency of upwelling events mentioned in National Weather Service and Surf Reports, it was noted that only four upwelling events were mentioned in the Cape Canaveral area from 2014 to 2024[13]. When analyzing the National Data Buoy Center, Bouy number 41009[14] showed that the sea surface temperature (SST) only dropped under 75 degrees F (indicating an upwelling event) on average 1.5 days per year during the months of May – September from 2015 – 2024. The low frequency of upwellings plus the 360-1580 meter buffer are expected to decrease the chances of sediment plumes causing damage to the coral pinnacles, while balancing the rock shrimp fishery's need for access to its historical shrimping area.

[13] https://www.surfline.com/surf-reports-forecasts-cams-map/@28.44846826804955,-80.58445930480958,13z https://www.weather.gov/mlb/

[14] https://www.ndbc.noaa.gov/station_page.php?station=41009

At this point, no definitive studies on the impacts of trawling and associated sedimentation in this area have been conducted.

The OHAPC is also EFH for snapper grouper species. The bycatch practicability analysis (Appendix D) provides more information on the potential impacts to snapper grouper and other species as a result of increased fishing in this area.

Potential negative biological impacts to the affected coral habitat relative to **Alternative 1 (No Action)** would be greatest under **Alternative 3,** which offers less of a buffer (up to .25 nautical miles less in the widest area) between the coral pinnacles and the SFAA than **Preferred Alternative 2**.

4.1.2. Economic Effects

Alternative 1 (No Action) would continue to prohibit access to rock shrimp vessels within a discrete area along the northern extension of the OHAPC; however, since this area is currently closed to bottom trawl gear, there would not be a change in economic benefits. **Alternative 1 (No Action)** would result in potential foregone landings of rock shrimp and thus foregone economic benefits associated with these landings compared to **Preferred Alternative 2** and **Alternative 3.**

Preferred Alternative 2 would result in net economic benefits by allowing vessels fishing for rock shrimp with bottom trawl gear to potentially increase landings of rock shrimp through access to an approximate 14.10 NM^2 area in which rock shrimp harvest was allowed prior to implementation of Coral Amendment 8 in 2015. Based on historical VMS data, the use of this area would likely vary from year to year. However, participants in the rock shrimp portion of the shrimp fishery have reported, and VMS data indicate, that rock shrimp were historically caught in the proposed access area. Increases in catches of rock shrimp would be expected to increase gross revenue and producer surplus[15], thus resulting in net economic benefits. An increase in catches of rock shrimp would also help achieve OY. Given the likely variability in usage of the area, as well as the exhibited variability in overall participation in the regional rock shrimp portion of the shrimp fishery, these economic effects cannot be quantified. Additionally, if landings of rock shrimp increase, these landings are a relatively small component of the overall market for shrimp given the magnitude of shrimp imports. Thus, higher landings of rock shrimp would not be expected to change ex-vessel or consumer prices and therefore there is no anticipated change in consumer surplus. The economic effects of **Alternative 3** would likely be similar to those described for **Preferred Alternative 2**, but economic benefits under **Alternative 3** would be comparatively higher since this alternative would allow access to an additional 4.4 square nautical miles of fishing grounds.

[15] Producer surplus (PS) is the difference between the amount a producer is paid for a unit of a good and the minimum amount the producer would accept to supply that unit (i.e., marginal cost). Total PS in a market or industry is measured by the difference between total gross revenue and total variable costs. PS is a measure of net economic benefits to producers.

The economic effects on individual vessel owners from **Preferred Alternative 2** and **Alternative 3** would depend on each vessel owner's profit maximization strategy, their dependence on rock shrimp, their seasonal fishing behavior, and their propensity to fish for rock shrimp in the new area compared to existing open areas. Some vessel owners may benefit from additional rock shrimp landings, while others may not. These types of individual vessel level effects cannot be determined with available models. Additionally, while fishing in the SFFA, vessels accessing the area under **Preferred Alternative 2** or **Alternative 3** would be required to have vessel monitoring system (VMS) ping rates that are higher than what is required in areas outside of the OHAPC. Specifically, VMS onboard vessels fishing the areas in **Preferred Alternative 2** or **Alternative 3** would require a ping rate of 12 pings per hour rather than 1 ping per hour that is required when outside of the OHAPC. The exact cost to the vessel would vary, depending on how much time was spent fishing within the SFFA and the cost of the VMS service that the vessel employs. The potential increase in cost associated with VMS ping rates is expected to be negligible since the overall cost of a temporary increased ping rate is expected to be very low, particularly when compared to other operating costs. Also, the vessel would be fishing in an area previously closed to bottom trawling gear and thus would be incurring a potential net economic benefit from access to this area.

Net economic benefits for commercial rock shrimp vessels would be highest under **Alternative 3**, followed by **Preferred Alternative 2**, and **Alternative 1 (No Action)**. In general, rock shrimp dealers are indirectly affected whenever gross revenues to commercial fishing vessels are expected to change as a result of a change in landings (e.g., increases in gross revenues from increased landings are expected to indirectly benefit dealers and vice versa). This would occur due to increased sales and associated increased producer surplus for dealers. Thus, the ranking of net economic benefits to dealers would be the same as for commercial fishing vessels.

4.1.3. Social Effects

In general, closed areas can have negative social effects on fishermen if important fishing grounds are no longer open to harvest. Closed areas can also provide positive social effects if they result in increased production/catches by protecting key areas, or life stages (e.g., spawning adults). Fishermen would need to fish other areas to maintain operations, which may result in user conflicts or overcrowding issues. Additionally, increased economic costs associated with travel to other fishing grounds could affect crew employment opportunities on vessels. Long-term social benefits may be associated with the long-term biological benefits of closed areas if the closures are appropriately selected and include a periodic evaluation of effectiveness. Closing some areas may have broad social benefits by protecting more coral areas and may contribute to improved fishery resources.

Alternative 1 (No Action) would likely result in minimal social effects because the fleet is already harvesting in open areas and prohibited from working in the closed area. The social benefit of establishing an SFAA to the rock shrimp fleet would not occur under **Alternative 1 (No Action)** and changes in fishing behavior or fishing opportunities would not be expected. Maintaining closed areas where substantial deepwater coral exists may prevent any future impacts from fishing activities that could have negative biological effects on the habitat.

Preferred Alternative 2 and **Alternative 3** would impact the rock shrimp fleet by opening some historic fishing grounds. The size and the location of the SFAA are the two most significant factors that would be expected to positively impact fishermen. The larger area proposed under **Alternative 3** could have more benefits than the smaller proposed area under **Preferred Alternative 2** if the location is in an area that would provide needed access to rock shrimp while simultaneously avoiding any deepwater coral. **Preferred Alternative 2** and **Alternative 3** are based on coordinates presented by rock shrimp fishermen during public comment in March 2013 and March 2014, respectively. The Shrimp and Deepwater Shrimp Advisory Panels have expressed the importance of establishing an SFAA. AP members noted that regular use of the area is variable due to the nature of the fishery, but access is very important in years when rock shrimp are present. **Preferred Alternative 2** was supported by the Council's Deepwater Shrimp Advisory Panel.

Preferred Alternative 2 and **Alternative 3** directly address stakeholder concerns regarding access to historically important fishing grounds. Additionally, **Preferred Alternative 2** and **Alternative 3** would directly address Executive Order 14276: Restoring American Seafood Competitiveness, which requested that the Regional Fisheries Management Councils identify actions what would improve access to fishing opportunities and enhance economic profitability. Responding to stakeholder concerns and taking action that would promote domestic seafood may improve stakeholder perceptions of the management process and result in positive social effects associated with increased participation in the management process and more local ecological knowledge available to aid in decision-making. **Preferred Alternative 2** and **Alternative 3** are expected to have greater social benefit than **Alternative 1 (No Action)**. The social effects of **Preferred Alternative 2** and **Alternative 3** are expected to be similar.

4.1.4. Administrative Effects

Alternative 1 (No Action) would not change the administrative environment from its current condition. The establishment of an SFAA **(Preferred Alternative 2** and **Alternative 3**) would have minimal administrative impacts. The existing requirement of VMS in the rock shrimp portion of the shrimp fishery enhances enforcement of the regulations and helps to ensure protection of the sensitive *Oculina* coral habitat within the OHAPC. In Coral Amendment 8, a higher vessel location reporting rate (ping rate) when transiting the OHAPC was implemented (80 FR 42423, July 17, 2015). Administrative impacts would be incurred through the rulemaking process, outreach, and enforcement. The administrative impacts could differ between the alternatives relative to the amount of area they cover.

Expected enforcement costs would increase initially as costs associated with monitoring the increased VMS reporting. However it is unclear how often the area will be used by the rock shrimp fishery. Associated costs to reconfigure VMS reporting may be incurred by NOAA and industry, depending on vendor capabilities. The administrative impacts associated with these alternatives relate to at-sea enforcement, increased VMS staff monitoring and ensuring VMS vendor units are configured to report as required when in the SFAAs.

Chapter 5. Council's Rationale for the Preferred Alternatives

Action 1. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

5.1.1 Deep-Water Shrimp Advisory Panel Comments and Recommendations

The South Atlantic Fishery Management Council's (Council) Deep-water (DW) Shrimp Advisory Panel (AP) discussed Coral amendment 10 at their November 10, 2020, meeting via webinar. Their comments are included because the **Preferred Alternative 2** SFAA is the same as that proposed in Coral Amendment 10, so the comments are still applicable. The DW Shrimp AP had the following comments:

- The proposed shrimp fishery access area (SFAA) includes an area rock shrimp fishermen historically fished, and since they are using vessel monitoring systems (VMS), the buffer between the high relief coral habitat and proposed SFAA boundary could be reduced to give them access to this area.
- An industry representative provided coordinates used in the proposed SFAA indicating it was an important area.
- The eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern (OHAPC) was important fishing grounds considering the variability of where rock shrimp are available to the fishery from year to year.
- The area is extremely variable from year to year and therefore, it is hard to assign a monetary value or productivity value.
- Multiple AP members stated their support for re-opening the proposed SFAA.
- Fishermen responded to a question from Coral AP members on the positioning of the boat versus the trawl indicating they always know precisely where the rigs are relative to the vessel. Fishermen are requesting additional allowable fishing area stating their intent is not to destroy any habitat and they acknowledge its benefit to harvesting rock shrimp.
- According to fishermen, fishing in 300 feet (ft) of water results in 1,000 ft of cable out, and the rigs are approximately 500 ft straight down behind the boat.
- Fishermen indicate they 1) often drag very close to obstructions; 2) know how to keep equipment safe and not damage bottom habitat; and 3) want to fish in areas where there is no coral.
- Dragging takes place east of and parallel to the pinnacles, so sediment should drop back down onto the bottom and not cause any detriment to habitat.

MOTION[16]: To adopt the 2014 coordinates eastern boundary of the northern extension of the OHAPC developed by industry and staff as a SFAA as represented in Alternative 2a. SFAA boundaries based on coordinates presented by fishermen as part of March 2014 public comment.

Both the Shrimp and DW Shrimp APs received an update on Coral Amendment 11 and Shrimp Amendment 12 amendment during their meeting in April 2024 meeting. The APs noted the following:

- Regular use of the area would be variable due to the nature of the fishery but if open, the area would be very important in years when the rock shrimp are present in the area.
- Shrimpers noted that they did not interact with coral when the area was previously open.
- Due to conditions in the area, only experienced fishermen tend to trawl within the area and are experienced in avoiding the coral and trawling responsibly.
- Trawls tend to be roughly 3 football fields away from the coral pinnacles.

Since then, the AP members have been kept abreast of opportunities for public comment via email.

At its meeting in March 2025, the Council decided not to reconvene its advisory panels to review the current joint amendment since the Council had already received feedback from the Shrimp and Deepwater Shrimp APs on establishing an SFAA within the OHAPC in 2020 and 2024.

5.1.2 Coral AP Comments and Recommendations

The Council's Coral AP discussed Coral Amendment 10 at their November 10, 2020, meeting via webinar. Their comments are included because the **Preferred Alternative 2** SFAA is the same as the preferred alternative proposed in Coral Amendment 10, so the AP's comments are still applicable. The Coral AP members had the following comments:

- Additional public comments were received prior to the meeting articulating the need for an adequate buffer.
- There is a need to have a sufficient protective buffer in place to protect the corals from sediments that become suspended in the water column because of the fishing gear interaction with the mud bottom.
- The muds are composed of clays and very small particles that can become suspended in the water column for considerable distances and sediment plumes can travel up to 20 km.
- Allowing fishing gear interactions within 100 to 2,000 m would be putting corals at risk.
- Low relief could include hard bottom communities that are providing essential fish habitat for deep-water species managed under the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region.

[16] The current Preferred Alternative in the joint amendment is the same as the **Preferred Alternative** in Coral Amendment 10.

- It was recommended that the protective buffer would help protect the coral pinnacles and also low relief hard bottom.
- Fishing less than 1,000 m from the coral habitat is too close, however work has not been done to know exactly what the optimal distance should be.
- A margin of error is needed to account for uncertain current flow and intensity to prevent indirect sediment plume impacts.
- Mapping is limited and funding is scarce to map the *Oculina* banks.
- AP members supported establishing a substantial buffer of possibly 1,000 m from the known habitat as an approach that would address and account for uncertainty as directed by the Magnuson-Stevens Fishery Conservation and Management Act.
- It is important to protect the whole *Oculina* coral ecosystem from the impact of fishing and having a substantial buffer around that ecosystem would accomplish that goal.
- Creating marine protected areas that are too small results in fishing right up to the edge and not providing protections to fish populations.
- Use numbers for relief on maps instead of low and high to provide greater context and more information.
- When measuring/evaluating distances between the new proposed SFAA boundary and where the reef resources are, horizontal lines shouldn't be drawn from the pinnacle base where we know there is still living habitat important for snowy grouper and other important snapper grouper species in that area and should be drawn from the extent of the reef resources including low relief habitat.
- There is uncertainty about the location of the rig on the bottom. National Marine Fisheries Service data indicate that the ratio of scope to depth for shrimp trawlers is, typically somewhere between 3 to 4.3 ratio in these depths and these kinds of currents. So, taking a conservative estimate means that the horizontal distance between the boat and the rig can be anywhere from about 230 m to 510 m.
- Concern was raised over the distance between the location of the boat versus the rig. If there were track points on the rigs at all times, they could be identified, and the precision would be increased.
- Based on hydrodynamic drag, if the prominent direction of the current exactly parallel to the high relief feature, the reef feature causes drag, which is going to create eddies that would spin off on the left or western side. If a sediment plume was created, that would cause entrainment of particles up onto the reef even if dragging was in the soft bottom east of the reef.
- Protecting areas around the base of the pinnacles is important because growth of damaged *Oculina* on the banks is slow, very spotty, and low and when coral does come back, it tends to be on the marginal areas or base around the main pinnacles.
- When species abundance has been reduced to the extent that has occurred for *Oculina*, it is going to take a long time to recover since the population to produce the larvae to bring it back quickly is not present.
- The AP indicated the present boundary provided a buffer and approved a motion supporting the no action alternative.

MOTION[17]: Consider Option 1 status quo. (Do not develop an action to address the issue).

At its meeting in March 2025, the Council decided not to convene its advisory panels to review the current joint amendment since the Council had already received feedback from the Coral AP on establishing an SFAA within the OHAPC. All AP members have been kept abreast of opportunities for public comment via email.

5.1.3 Habitat and Ecosystem AP Comments and Recommendations

The Council's Habitat and Ecosystem AP discussed Coral Amendment 10 at their October 22, 2020, meeting via webinar. Their comments are included in this joint amendment because the **Preferred Alternative 2** SFAA is the same as the preferred alternative proposed in Coral Amendment 10, so the AP's comments are still applicable. The Habitat and Ecosystem AP members had the following comments:

- Generally expressed concerns regarding modification of the existing boundary.
- Given the proximity to the OHAPC boundary, the low percentage of historical effort in the area, and the fact that there is some "low relief" coral habitat in the area, questioned the need to open the area.
- Need to define low relief and to put the area in proper context.
- Some members advocated supporting the fishing industry given the historical extent of fishing in the area, narrow width of the proposal and the desire to provide a buffer zone adjacent to coral pinnacles.
- Secure VMS data for before and after the establishment of the OHAPC. If the area was reopened, and therefore represented "new" ground for fishing, it could be heavily used.
- Look at the effort data, perhaps consider narrowing the area in those areas which were lightly fished.
- While socioeconomic concerns are not the purview of the Habitat AP, they should at least consider them.
- Request to keep AP informed with regard to any Council action on this item, and especially with respect to future opportunities to put additional conservation measures in place for the additional area of continuous coral pinnacles.

The Habitat and Ecosystem AP (HEAP) received an update on this amendment during their meeting in April 2024. AP members offered the following:

- The proximity of the proposed SFAA to the Oculina HAPC is concerning.
- The sediment resuspension and bycatch should be addressed in the amendment.
- The bycatch reduction device (BRD) works so the rock shrimp bycatch is small.

[17] The current no action (status quo) alternative in the joint amendment is the same as the status quo alternative in Coral Amendment 10.

- The historical catch was about 1.6 - 8% of total rock shrimp catch. The percentage varies by year dependent on the Gulf Stream.
- Staff should investigate alternative SFAA sizes.
- The scientific team believes that due to the strong current and only having two successful tows, that there is a chance that coral was missed in the 2022 study.
- They also believe that there probably was some coral prior to the fishery, and that coral could grow in this area if it remains closed.
- The HEAP feels that more research should be conducted prior to the opening of the SFAA.
- The impact of sedimentation on coral reproduction timing is unknown. Even extremely small sediment plumes at the wrong time could kill coral larvae.
- We have a need for balance in decision making. The HEAP would prefer to have a more reliable survey prior to opening the area up. Additionally, any information on known restructuring of the habitat and habitat quality would be helpful. These structures are incredibly old. This is the oldest known reef in the world, and it's not just the corals, there are many species that will be affected.
- The Council should consider what advancing this amendment means and what needs to be adjusted to make certain we are appropriately managing all of the affected resources.

At its meeting in March 2025, the Council decided not to reconvene its advisory panels to review the current joint amendment since the Council had already received feedback from the Habitat and Ecosystem AP on establishing a SFAA within the OHAPC. Since then, the AP members have been kept abreast of opportunities for public comment via email.

5.1.4 Law Enforcement AP Comments and Recommendations

The Law Enforcement AP was given a brief update on this amendment at their February 1, 2021, meeting and provided no comments.

5.1.5 Scientific and Statistical Committee (SSC) Comments and Recommendations

Amendment development updates were provided as part of Amendment Overviews for SSC meetings since 2018, but no specific comments were provided.

The SSC also reviewed the NCCOS Deepwater coral predictive model of the area during their April 2023 meeting and made the following statements.

- The distribution model of deep-sea corals is deemed adequate to describe the probability of occurrence.
- The use of occupancy models is likely an improvement over the previous models used.
- The SSC deems this analysis consistent with BSIA and appropriate for use in management.

5.1.6 Public Comments and Recommendations

Summary of Scoping comments for Coral Amendment 10:

Coral Amendment 10 was disapproved and was not implemented. However, since the preferred alternative chosen by the Council in Coral Amendment 10 is identical to the preferred alternative chosen by the Council in this joint amendment, the Council determined that this information concerning Coral Amendment 10 is appropriate for inclusion in this joint amendment. Scoping hearings for Coral Amendment 10 were held via webinar on February 8-9, 2021. The scoping comment period ran from January 12, 2021, through 5:00 PM on February 8, 2021. No public comments were received. One member of the public (non- Council or other agency staff) attended.

Summary of Public Hearing Comments for Coral Amendment 10:

Public hearings for Coral Amendment 10 were held by webinar on May 14, 2021, and May 15, 2021, and the public comment period ran from April 28, 2021, through 5 PM on May 14, 2021. Comments received during the Public Hearing Webinar on May 13, 2021:

- One commenter supported the action in the amendment and felt the South Atlantic Council had done a good job developing the amendment.
- One commenter indicated the preferred alternative included traditional bottom, which has been fished and is verified by the many VMS fishing points occurring in the area over the years.
- Area under consideration has been fished and was just something that came up late when Coral Amendment 8 was first put into place.
- One commenter noted fishermen requested the South Atlantic Council revisit the area and appreciated the fact that there was a good, preferred alternative.
- One commenter noted that opening an area for a shrimp fishery only defeats the purpose of conservation and your role to protect environment and fishery.
- A commenter was concerned that the South Atlantic Council was playing into the hands of the commercial industry, the action would set a precedent and did not support the action.

Summary of Public Hearing Comments for Coral Amendment 11/Shrimp Amendment 12

Two public hearings were held for this joint amendment in August 2025, one via webinar and one in-person. The webinar hearing was held on August 5th. This hearing had 34 attendees and 10 comments. The in-person hearing was held in St. Augustine, Florida, on August 7th. The in-person meeting had 15 attendees and 10 comments. Full transcripts of comments are available within the September 2025 Council meeting briefing book.

Public comment was also solicited online via the Council's website from July 22 through August 12, 2025 (it was extended for one week at the public's request). There were 125 comments submitted through the online form which can be accessed HERE. There were 21 comments submitted via email or attachment, which are included in the Council's briefing book for the September 2025 meeting (Table 5.6.1).

Table 5.6.1. The characteristics of online commenters.

Affiliation	Number of Respondents[1,2]	Supportive of Alternative 1 (No Action)	Supportive of Preferred Alt 2 or Alt 3
Fishermen (commercial and recreational) and dealers	76	47	29
Non-Gov't Organization[3] or University	3,143	3,142	1
Other	49	47	2
Totals	3,268	3,236	32

[1]Includes online respondents and individuals who provided state and sector affiliation.
[2]Some respondents chose more than one affiliation.
[3]Two NGOs resubmitted letters with 3,098 signatures in support of Alternative 1 (No Action) that were gathered in 2022 and originally submitted as comments for Coral Amendment 10.

Comments Supporting Alternative 1 (No Action)

Those in support of **Alternative 1 (No Action)** included recreational fishers, environmental groups, scientists, and concerned citizens. Most commenters emphasized irreversible ecological damage, limited economic benefit, lack of scientific information, and risks to biodiversity. These comments are summarized as follows:

- **Ecological harm**
  - Rock shrimp bottom trawling damages or destroys fragile deep-water coral reefs, which grow very slowly and provide critical habitat for over 2,000 species (including shrimp, snappers, and groupers).
  - Coral already faces compounding stressors (warming, acidification, disease) that make it more vulnerable.
- **Sedimentation risks**
  - Trawling stirs up silt and clay, smothering coral polyps and larvae.
  - Currents can carry sediment onto reefs despite proposed buffer zones.
- **Loss of biodiversity & fisheries impacts**
  - Coral habitat supports spawning and juvenile stages of commercially and recreationally important species (snappers, groupers).
  - Bycatch in the southeastern shrimp fisheries remains a concern despite turtle excluder devices (TEDs) and bycatch reduction devises (BRDs).
- **History of damage**

  - Up to 90% of Oculina coral was destroyed before protection in 1984; recovery has been limited. The true cause of the destruction is unknown, but supporters of Alternative 1 commented that they believe the shrimpers are responsible
  - Past use by the shrimp fishery does not justify reopening the area.
- **Lack of Scientific information**
  - Scientists and NGOs criticized the seeming exclusion of the Coral Advisory Panel and disregard for decades of research.
  - Lack of new sediment/trawling studies; data gaps remain.
- **Economic skepticism**
  - The rock shrimp fishery is small and has not historically met optimum yield (OY) without the area; there is a large gap between the current landings and OY; the shrimpers admit that they would use this small area sporadically; reopening the proposed SFAA to shrimping would likely provide minimal benefit and not allow shrimpers to achieve optimum yield.
  - Could undermine Florida's investments in coral restoration and harm broader fisheries and tourism.
- **Precedent concerns**
  - Reopening protected areas could weaken conservation commitments and set damaging precedents.
- **Additional points raised by those supporting Alternative 1**
  - It was suggested that monitoring should occur for at least a year if the area is opened to track coral impacts.
  - Benefits to shrimpers do not outweigh risks to rare coral ecosystems.

Comments Supporting Alternatives 2 and 3

Support of **Preferred Alternative 2 and Alternative 3** came mostly from rock shrimp fishermen, processors, and trade groups such as the Southeastern Fisheries Association. Their comments focused on emphasizing historical use, lack of coral in the SFAA, protective measures, and economic relief. These comments are summarized as follows:

- **Historic fishing grounds**
  - The SFAA was traditionally used before Coral Amendment 8 closures in 2013.
  - Fishermen do not think that fishing activities in the area will have negative effects on the coral because when the original OHPAC was created, the coral did not show damage from fishing activities in the area when it was open.
- **No coral present**
  - NOAA mapping in 2025 and a 2022 camera based survey found no reported live or dead *Oculina* coral within the proposed SFAA.
- **Protective measures**
  - Shrimpers avoid coral due to gear costs and allow an additional buffer when deploying/retrieving gear.
  - VMS monitoring ensures compliance, reducing risk of illegal trawling.

  - Bycatch has been significantly reduced through TEDs and BRDs, with industry compliance.
- **Economic need**
  - Closures have harmed small fishing businesses and coastal economies; reopening would support livelihoods.
  - Amendment supports Executive Order 14276 on "Restoring American Seafood Competitiveness" by reducing burdens on the industry.
  - While use the of area is expected to be variable, due to the "annual-crop" nature of the rock shrimp fishery, it would be beneficial during years of lower harvest in other areas.
- **Challenges to scientific claims**
  - Some historical damage attributed to shrimping was inaccurate, unfeasible, or caused by other fisheries (e.g., scallops).
  - Exact causes of past coral death remain uncertain.
  - Shrimpers have argued that there are not bottom currents that would move trawl sediment onto the coral mounds.
- **Other greater threats to corals**
  - Gray water releases from Lake Okeechobee, cruise ship pollution from Cape Canaveral, and space industry impacts are more significant threats than shrimping.

5.1.8 South Atlantic Council's Draft Rationale

The Council determined that the **Preferred Alternative 2** best meets the joint amendment's stated purpose and need because it best optimizes yield for the shrimp fishery and balances the goal of allowing shrimpers access to commercially important historical shrimping grounds while providing protections *Oculina* coral from negative effects with a 360 - 1580 m protective buffer between known pinnacles and the SFAA boundary. **Preferred Alternative 2** also meets the objectives of the Fishery Management Plan for the Coral, Coral Reefs and Live/Hard Bottom Habitat of the South Atlantic Region **and** the Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region, as explained below.

In selecting **Preferred Alternative 2**, the Council considered that future trawling activity would likely occur where rock shrimp have been previously harvested, in areas already impacted by past fishing activities. There have been multiple studies (Section 4.1.1 and Appendices F and G) that show no evidence of coral in this area or in the immediate adjacent areas so direct damage to coral is unlikely.

Council members also considered the possible impacts of sedimentation from rock shrimp trawling on coral. The Council noted that research has not established what the optimal buffer distance should be to prevent adverse effects on coral from activities that suspend bottom sediments. **Preferred Alternative 2** provides a larger buffer between the proposed SFAA and the known coral pinnacles than **Alternative 3** (Section 4.1.1). Additionally, existing research suggests that the current within the area moves primarily northward. Upwellings are infrequent

in the area but may occasionally push water shoreward toward the coral pinnacles. The reefs are often inundated with a turbid, bottom nepheloid layer, so any additional cross-shelf transport from upwelling would result in limited sediment impacts (Reed, 2006). The low frequency of upwellings plus the 360 -1580 m buffer are expected to decrease the chances of sediment plumes causing damage to the coral pinnacles while balancing the rock shrimp fisheries' need for access to its historical shrimping area. These reasons led the Council to determine that the **Preferred Alternative 2** would minimize damage to EFH while increasing access for the rock shrimp fishery.

The Council acknowledges the rock shrimp industry's efforts to avoid damage to coral, as they rely on healthy coral reef habitat to support the shrimp population. Additionally, trawling over coral can lead to thousands of dollars in damaged gear. Rock shrimp fishermen maintain that they would use the proposed SFAA sporadically, as rock shrimp aren't present in the area consistently, and that only experienced fishermen have the ability to navigate the area. The Council acknowledged that while targeting rock shrimp is challenging, vessel operators are experienced professionals who are required to have a limited access permit and to carry a VMS, and that the VMS requirement reduces the likelihood of direct impacts on the deep-water coral habitat by allowing for precise navigation, tracking documentation and vessel accountability. The Council, during its September 2025 meeting, also reiterated their intent to require that rock shrimp vessels continue to report at the existing VMS communication rate (1 ping per 5 minutes) while utilizing the SFAA. This communication rate would provide good tracking resolution and enhance the ability of the NOAA Office of Law Enforcement to track those vessels.

The Council concluded that **Preferred Alternative 2** is the best alternative to help optimize yield in the rock shrimp portion of the South Atlantic shrimp fishery while balancing the concerns over protection for nearby important habitats. The Council expects **Preferred Alternative 2** to increase economic and social benefits to rock shrimp fishermen by increasing access to a very specific and historic rock shrimp fishing area along the eastern boundary of the northern extension of the OHAPC, while maintaining protection of the *Oculina* deep-water coral ecosystem. Creating the SFAA will continue to maintain strong protection on the areas with identified coral while balancing fishery access in areas with no identified corals. Reopening the area demonstrates science-based management by balancing conservation and historical fishing access while also strengthening trust between shrimpers, scientists and managers.

Preferred Alternative 2 is viewed by some Council members as a technical correction to the eastern boundary of the northern extension of the OHAPC established by the Council in Coral Amendment 8 in 2014. Information on the concentrated fishing effort in this area and its economic value to the fishery was discussed very late in the development of Coral Amendment 8. Therefore, the action proposed in this plan amendment is effectively an adjustment to implement the boundary requested by rock shrimp fishermen in 2014. Council members acknowledged the rock shrimp industry's statements that the monetary value of shrimping along the eastern edge of the northern extension of the OHAPC is greater than was previously communicated to the Council. Through the Deep-water Shrimp AP, the industry stated that the area in question had produced a substantial amount of revenue in 2013 and in 2014, just prior to the effective date of the closure of that area implemented through Coral Amendment 8.

Therefore, the Council has determined that it is optimizing the benefits generated from the coral resources, while minimizing the impacts of humans (specifically the shrimp industry) on coral, and balancing conservation with adaptive science-based management by choosing **Preferred Alternative 2**. Lastly, **Preferred Alternative 2** meets the directives of the Executive Orders 13921 and 14276 while also complying with the requirements of the Magnuson-Stevens Act and other applicable law.

Chapter 6. Cumulative Effects

This environmental assessment (EA) is being prepared according to NOAA NEPA procedures 216-6 A and accompanying companion manual. The cumulative effects discussed in this section meet the two-part standard for "reasonable foreseeability" and "reasonably close causal connection" required by the new definition of effects or impacts. Below is the five-step cumulative effects analysis that identifies criteria that should be considered in an EA.

6.1 Affected Area

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coast of northern Florida, which is within the South Atlantic Fishery Management Council's (Council) area of jurisdiction. The ranges of affected species are described in Chapter 3 of this amendment. For the proposed action found in Amendment 11 to the Fishery Management Plan (FMP) for Coral, Coral Reefs, and Live/Hard Bottom Habitat of the South Atlantic Region (Coral FMP), and Amendment 12 to the FMP for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP), the effects analyses include data from 2015 through 2019. Additionally, these cumulative effects analyses includes an analysis of actions and events dating back to 1982 when the original Coral FMP was implemented, and through what is expected to take place in the reasonably foreseeable future.

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

Fishery managers implemented the first significant regulations pertaining to coral species in 1982 through the Coral FMP (GMFMC and SAFMC 1982), including prohibiting trawling within the Oculina Bank Habitat Area of Particular Concern (OHAPC). The implementation of the Shrimp FMP in 1993 has resulted in regulations associated with penaeid and rock shrimp. Listed below are other past, present, and reasonably foreseeable actions occurring in the South Atlantic Region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical and socio-economic environment. The complete history of management of the *Oculina* coral habitat and the rock shrimp portion of the shrimp fishery can be found in on the SAFMC website.

Past Actions

The Coral FMP (SAFMC 1982) established the OHAPC. Within the OHAPC, no person may: 1) use a bottom longline, bottom trawl, dredge, pot, or trap; 2) if aboard a fishing vessel, anchor,

use an anchor and chain, or use a grapple and chain; or 3) fish for rock shrimp or possess rock shrimp in or from the area on board a fishing vessel.

Amendment 4 to the Coral FMP and Amendment 3 to the Shrimp FMP, included in the Comprehensive Essential Fish Habitat (EFH) Amendment (SAFMC 1998a), expanded the OHAPC and incorporated two adjacent areas within the OHAPC.

Amendment 5 to the Shrimp FMP established a limited access system for portions of the rock shrimp fishery and required the use of a vessel monitoring system (VMS) by vessels with a limited access endorsement fishing for rock shrimp on a trip in the South Atlantic.

Amendment 6 to the Coral FMP and Amendment 8 to the Shrimp FMP, included in the Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1; SAFMC 2009a and 2009 b), established Deepwater Coral HAPCs (CHAPC), prohibited the use of bottom tending gear in the Deepwater CHAPCs, and established shrimp fishery access areas within the Stetson-Miami Terrace Deepwater CHAPC.

Amendment 8 to the Coral FMP (SAFMC 2013) expanded the Stetson-Miami Terrace Deepwater CHAPC, the Cape Lookout Deepwater CHAPC, and the OHAPC; and implemented a transit provision for rock shrimp fishermen through the OHAPC.

Coral Amendment 10 to the Coral FMP (SAFMC 2021) would have established a Shrimp Fishery Access Area (SFAA) along the eastern boundary of the northern extension of the OHAPC. The area was a historically important fishing ground for rock shrimpers, but access was restricted with the implementation of Coral Amendment 8 in 2014. However, in July 2022, Coral Amendment 10 was disapproved by the Secretary of Commerce. In this joint FMP amendment (Coral Amendment 11 and Shrimp Amendment 12), the Council is addressing the reasons for the disapproval and re-evaluating whether to establish an SFAA in the OHAPC.

Present Actions
Effects from the action in this plan amendment are discussed in Chapter 4.

Reasonably Foreseeable Future Actions
There are no reasonably foreseeable future actions that would amend the Coral or Shrimp FMP.

Expected Impacts from Past, Present, and Future Actions
The intent of the Council in Coral Amendment 11 and Shrimp Amendment 12 is to create a shrimp fishery access area within the OHAPC, which contains the historic fishing grounds of rock shrimp fishermen that were lost when the OHAPC was expanded in 2015. When combined with the impacts of past, present, and future actions affecting the rock shrimp resource, minor cumulative impacts are likely to accrue. The action is not expected to result in significant cumulative adverse biological or socio-economic effects to the rock shrimp portion of the shrimp fishery when combined with the impacts of past, present, and future actions (see Chapter 4). The degree and likelihood of potential direct biological impacts from bottom-tending fishing gear on

deepwater coral habitat are considered low based on current habitat mapping and characterization.

6.3 Consideration of Other Changes and Other Non-Fishery Related Issues

The Environmental Protection Agency's climate change webpage (https://www.epa.gov/climate-indicators/marine-species-distribution), and NOAA's Office of Science and Technology climate webpage (https://www.fisheries.noaa.gov/topic/climate), provides background information on climate change, including indicators which measure or anticipate effects on oceans, weather and climate, ecosystems, health and society, and greenhouse gases. The United Nations Intergovernmental Panel on Climate Change's Sixth Assessment Report also provides a compilation of scientific information on climate change (IPCC 2023) provides an updated compilation of scientific information on the impacts of climate change on the marine environment. It highlights that widespread environmental variability and rapid changes have occurred in the ocean and biosphere, with a notable increase in the frequency and intensity of weather and climate extremes globally.

This environmental variability may impact coral and shrimp, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur. In the near term, it is unlikely that the management measures contained in this amendment would compound or exacerbate the ongoing effects of these changes.

Weather Variables

The annual 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.

Space Industry Impacts

The proposed SFAA is located off the coast of Cape Canaveral, Florida, which is the home of space industry development. Currently there is a Draft Environmental Impact Statement[18] that estimates that SpaceX alone could begin launching and landing rockets upwards of 244 days per year (DAF, 2025). Each launch and landing will have an associated hazard zone that will close off fishing grounds for all types of fishermen, including rock shrimp fishermen. These closures could make fishing off the east coast of Cape Canaveral and maintaining an economically viable fishery impossible, making the eastern boundary of the OHAPC an even more important fishing ground. The effect will not be predictable until the new development is finished and launches begin.

[18] https://spaceforcestarshipeis.com/

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

The proposed action would establish a shrimp fishery access area (SFAA) in the northern extension of the OHAPC. Past impacts to the overall OHAPC ecosystem occurred from fishing gear interactions and resulted in 100% loss of live coral at multiple sites (Reed et al. 2007). In the 1970s, *Oculina* reefs hosted large spawning aggregations of grouper and snapper. By the early 1990s, commercial and recreational fishing caused a dramatic decline in fish populations while bottom trawling for rock shrimp fishing had destroyed large portions of *Oculina* habitat. Comparisons of photographic transects of *Oculina* habitat from 1975-1977 dives and 2001 dives show that severe or complete loss of standing coral habitat on several reefs occurred during this time due to trawling activity (Reed et al. 2007).

The action is expected to result in minimal direct biological impacts to the deepwater coral habitat in the OHAPC, as it would allow bottom trawling for rock shrimp in areas that are not known to contain *Oculina* Pinnacles and where historically fishing had already occurred.

In 2022, the Southeast Fisheries Science Center (SEFSC) conducted a visual survey of the preferred alternative SFAA. They aimed to classify the bottom type as either live (standing), dead (standing), rubble, or sand. To collect information on bottom type, the crew aboard the R/V *Weatherbird* utilized a towed camera system. The crew executed 14 dives, however only two of those dives were able to classify bottom type. The study noted that all live colonies of *Oculina* coral have previously been found on medium and high relief habitat, with rubble often found at the perimeter of the relief and that standing live or dead colonies of *Oculina* have never been found on low relief areas. This survey found no live, standing dead, or rubble in or immediately adjacent to the proposed SFAA. The survey did note, however, that it could not be stated definitively that no live *Oculina* colonies existed within the proposed SFAA. Based on existing multibeam bathymetry of the entire proposed SFAA, which shows only low or no relief, the study predicted that the likelihood of live *Oculina* is very low (Appendix G).

This action would result in net economic and social benefits by allowing vessels fishing for rock shrimp with bottom trawl gear to potentially increase landings of rock shrimp through access to the SFAA. The proposed management action is summarized in Chapter 2 of this document. Detailed discussions of the magnitude and significance of the impacts of the alternatives on the human environment appear in Chapter 4 of this document. None of the impacts of the action in this amendment, in combination with past, present, and future actions have been determined to be significant.

The proposed actions would not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places as these are not in the South Atlantic exclusive economic zone (EEZ). These actions are not likely to result in direct, indirect, or cumulative effects to unique areas, such as significant scientific, cultural, or historical resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas as the proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort within the South Atlantic region. The Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries are within the boundaries

of the South Atlantic EEZ. The proposed action would not cause loss or destruction of these national marine sanctuaries (NMS) because the action is not expected to result in appreciable changes to current fishing practices and the action area is outside of NMS. Additionally, the proposed action is not likely to change the way in which the rock shrimp portion of the shrimp fishery is prosecuted; therefore, the action is not expected to result in adverse impacts on health or human safety beyond the status quo.

6.5 Monitoring and Mitigation

The effects of the proposed action are and would continue to be monitored through collection of data by the National Marine Fisheries Service (NMFS), economic and social analyses, and other scientific observations. Vessels that participate in the limited access rock shrimp portion of the shrimp fishery are monitored through vessel monitoring systems (VMS). Currently, rock shrimp vessels transiting through the OHAPC must increase the VMS transmission rates, store equipment and maintain a direct and non-stop continuous course. Additionally, VMS would continue to be required on rock shrimp vessels while fishing in the proposed SFAA at the higher transmission rates that are currently in place while transiting the OHAPC. While VMS cannot replace at-sea enforcement by aircraft, vessels, and boarding teams, the technology complements existing capability and allows enforcement to target violators, thereby increasing enforcement efficiency. A vessel for which a federal Commercial South Atlantic Rock Shrimp Permit has been issued must carry a NMFS-approved observer, if selected, for observer coverage. The Southeast Fisheries Science Center allocates 20% of the total general shrimp observer funds distributed annually for at-sea observers on shrimp vessels to the South Atlantic. Approximately 1% of penaeid shrimp and <1% of rock shrimp trips (698 days from 2011-2016; Scott-Denton et al. 2020) have observer coverage.

The proposed action relates to the harvest of indigenous species in the Atlantic, and the activities/regulations being altered do not introduce non-indigenous species and are not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, these alternatives do not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread of non-indigenous species.

Chapter 7. List of Preparers

Name	Agency/Division	Title
Allie Iberle	SAFMC	Fishery Scientist/IPT Lead
Myra Brouwer	SAFMC	Deputy Director for Management
Chip Collier	SAFMC	Deputy Director for Science and Statistics
Mike Schmidtke	SAFMC	Data analyst
Christina Wiegand	SAFMC	Social Scientist
John Hadley	SAFMC	Economist
Kathleen Howington	SAFMC	Habitat and Ecosystem Scientist/IPT Lead
Karla Gore	SERO/SF	Fishery Biologist/IPT Lead
Rick DeVictor	SERO/SF	South Atlantic Branch Chief
Scott Sandorf	SERO/SF	Technical Writer and Editor
Alisha Gray	SERO/SF	Data Analyst
Christina Package-Ward	SERO/SF	Social Scientist
David Records	SERO/SF	Economist
Matt Johnson	SERO/SF	Chief, Habitat Ecology Branch
Monica Smit-Brunello	NOAA GC	General Counsel
Matthew Walia	SERO/OLE	Compliance Liaison Analyst
Christopher Liese	SEFSC	SEFSC Economist
Jennifer Lee	SERO/PR	Fishery Biologist, Protected Resources Division
Natasha Mendez-Ferrer	SERO/SF	NEPA Coordinator

IPT = Interdisciplinary Planning Team, SAFMC = South Atlantic Fishery Management Council, SERO = Southeast Regional Office, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, NOAA=National Oceanic and Atmospheric Administration, GC = General Counsel, OLE = Office of Law Enforcement, SEFSC = Southeast Fisheries Science Center.

Chapter 8. Agencies and Persons Consulted

8.1 Responsible Agencies

South Atlantic Fishery Management Council (Administrative Lead)
4055 Faber Place Drive, Suite 201
N. Charleston, South Carolina 29405
843-571-4366/ 866-SAFMC-10 (TEL)
843-769-4520 (FAX)
www.safmc.net

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

8.2 List of Agencies, Organizations, and Persons Consulted

SAFMC Law Enforcement Advisory Panel
SAFMC Snapper Grouper Advisory Panel
SAFMC Scientific and Statistical Committee
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
North Carolina Sea Grant
South Carolina Sea Grant
Georgia Sea Grant
Florida Sea Grant
Atlantic States Marine Fisheries Commission
National Marine Fisheries Service
- -Washington Office
- -Office of Ecology and Conservation
- -Southeast Regional Office
- -Southeast Fisheries Science Center

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Appendix A. Other Applicable Law

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

1.2 Information Quality Act (IQA)

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

1.3 Coastal Zone Management Act (CZMA)

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

1.4 Executive Order 12612: Federalism

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

1.5 Executive Order 13089: Coral Reef Protection

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

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

1.6 Executive Order 13158: Marine Protected Areas (MPA)

E.O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of Marine Protected Areas. The E.O. defined MPAs as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein." It directs federal agencies to work closely with state, local and non-governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources."

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

1.7 National Marine Sanctuaries Act (NMSA)

Under the NMSA (also known as Title III of the Marine Protection, Research and Sanctuaries Act of 1972), as amended, the U.S. Secretary of Commerce is authorized to designate National Marine Sanctuaries to protect distinctive natural and cultural resources whose protection and beneficial use requires comprehensive planning and management. The National Marine Sanctuary Program is administered by the Sanctuaries and Reserves Division of NOAA. The NMSA provides authority for comprehensive and coordinated conservation and management of these marine areas. The National Marine Sanctuary Program currently comprises 13 sanctuaries around the country, including sites in American Samoa and Hawaii. These sites include significant coral reefs 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 Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries.

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

1.8 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 the establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications. The PRA requires NMFS to obtain approval from the OMB before requesting most types of fishery information from the public. Actions in this document are not expected to affect PRA.

1.9 Small Business Act (SBA)

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

1.10 Public Law 99-659: Vessel Safety

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

1.11 Executive Order 14276: Restoring American Seafood Competitiveness

Executive Order (EO) 14276 was signed on April 17, 2025, to reduce burdens on domestic fishing and increase production. The EO requires the Secretary of Commerce, with each Regional Fishery Management Council, to identify actions that will stabilize domestic seafood markets, improve access to domestic fishing resources, enhance profitability for American fishermen, and prevent closures.

The alternatives considered in this document are consistent with the directives of EO 14276.

DRAFT DOCUMENT

Appendix B. Regulatory Impact Review

TO BE COMPLETED AFTER COUNCIL APPROVAL FOR SUBMISSION

B.1. Introduction

Body text

B.2. Problems and Objectives

Body text

B.3. Description of Fisheries

Body text

B.4. Effects of Management Measures

Body text

B.5. Public Costs of Regulations

Body text

B.6. Net Benefits of Regulatory Action

Body text

B.7. Determination of Significant Regulatory Action

Body text

DRAFT DOCUMENT

Appendix C. Regulatory Flexibility Act Analysis

TO BE COMPLETED AFTER COUNCIL APPROVAL FOR SUBMISSION

C.1. Introduction.

Body text

C.2. Statement of the Need for, Objective of, and Legal Basis for the Proposed Action

Body text

C.3. Description and Estimate of the Number of Small Entities to Which the Proposed Action Would Apply

Body text

C.4. Description of the Projected Reporting, Record-Keeping and Other Compliance Requirements of the Proposed Action, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirement and the Type of Professional Skills Necessary for the Preparation of the Report or Records

Body text

C.5. Identification of All Relevant Federal Rules, Which May Duplicate, Overlap, or Conflict with the Proposed Action

Body text

C.6. Significance of Economic Impacts on a Substantial Number of Small Entities

Body text

C.7. Description of the Significant Alternatives to the Proposed Action and Discussion of How the Alternatives Attempt to Minimize Economic Impacts on Small Entities

Body text

Appendix D. Bycatch Practicability Analysis

This bycatch practicability analysis evaluates the potential impacts of the proposed action in Amendment 11 to the Fishery Management Plan (FMP) for Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) and Amendment 12 to the Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP) on bycatch and bycatch mortality.

The proposed action in this amendment would establish a shrimp fishery access area (SFAA) along the eastern boundary of the northern extension of the Oculina Habitat Area of Particular Concern (OHAPC).

D.1. Population Effects for the Bycatch Species

Background

The OHAPC was established in 1982 (49 FR 29607, August 22, 1984) with anchoring prohibited within the OHAPC in 1996 (60 FR 66926, December 27, 1995) and expanded area in 2014 through Coral Amendment 8 (80 FR 42423, July 17, 2015). The northern extension of the OHAPC was closed to rock shrimp trawling with the implementation of Coral Amendment 8. Under the regulations in 50 C.F.R. § 622.224(b)(1)(i), no person in the OHAPC is permitted to use bottom longlines, bottom trawls, dredges, pots, or traps. Additionally, while aboard a fishing vessel, a person may not anchor, or use an anchor and chain, or a grapple and chain. Fishing for or possessing rock shrimp in or from the OHAPC is also prohibited, except for a shrimp vessel with a valid commercial vessel permit for rock shrimp that can transit through the area if its gear is appropriately stowed. "Transit" is defined as a direct, continuous, and non-stop course through the area, maintaining a minimum speed of five knots as determined by an operating vessel monitoring system (VMS) with a minimum ping rate of 1 ping per 5 minutes. Appropriately stowed gear means that the doors and nets are out of the water.

Coral Amendment 11 and Shrimp Amendment 12 propose to establish an SFAA within the OHAPC in a discrete location where rock shrimp fishermen historically fished. This analysis evaluates the potential impacts the SFAA action may have on deepwater coral, particularly the potential for incidental capture, or "bycatch," of coral. As discussed in Section D.4, scientific surveys have indicated a very low likelihood of live *Oculina* coral within the proposed SFAA due to the low-relief, sandy bottom in the area. As such, the bycatch of coral during the operation of this fishery is not expected to occur.

The bycatch practicability analysis also focuses on the rock shrimp fishery and its potential indirect impacts on other species caught incidentally, noting that historical fishing effort in the area was low and impacts on commercially important species are expected to be minimal.

The proposed action could result in negative direct impacts to the rock shrimp species within the SFAA as targeted fishing would occur. Access to the area can be important to the rock shrimp fishermen in years when rock shrimp are present in the area. Past fishing effort in the proposed

SFAA has been historically low, averaging less than 1.8% of the total number of vessel monitoring system (VMS) fishing points, which are used as a proxy for fishing activity. Additionally, the rock shrimp fishery has not reached the optimum yield (OY) target since 2004.

There may also be a negative impact on snapper grouper species caught as bycatch in the rock shrimp fishery. Fish taken in rock shrimp trawls are generally small and young. Juveniles often exhibit extremely high natural mortality rates, meaning that a large portion of young fish would naturally perish before reaching reproductive age. The reproductive potential of a stock can be further compromised if fishing mortality from bycatch is added to the high natural mortality, preventing a sufficient number of fish from reproducing before they are exposed to fishing or bycatch mortality. However, as mentioned above, the historical rock shrimp fishing effort in this area was low and the impacts on species in the area is expected to be low.

Some commercially valuable deepwater species congregate around deepwater coral habitat**.** Various crabs, for instance, are abundant on the deep reefs. Other invertebrates, particularly ophiuroids (brittle stars), populate the deepwater coral matrix in high numbers. There could be potential for bycatch of these species, however more research on abundance and type is needed to quantify potential impacts.

Bycatch Data for South Atlantic Rock Shrimp Fishery

A mandatory observer program for the commercial shrimp fishery in the U.S. Gulf of America (formerly Gulf of Mexico) was implemented in 2007 and expanded to include the South Atlantic penaeid and rock shrimp fisheries through Amendment 6 to the Shrimp Fishery Management Plan (70 FR 73383, December 12, 2005).

Annually, between July and November, the South Atlantic Rock Shrimp Observer Program randomly selects 10 vessels with active permits and reported rock shrimp landings in the prior three years. There are 158 unique South Atlantic Rock Shrimp permits, with an average of 90-100 active in any given year.

The South Atlantic rock shrimp observer data was provided from the National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center (SEFSC) in April of 2025. There was no observer data in the South Atlantic rock shrimp fishery in 2023 because the 10 vessels selected either did not fish in 2023 or failed to respond to the selection letter. The 2024 South Atlantic rock shrimp observer bycatch estimates are not available in the format necessary for publication. As of 2023, only four-net configurations were sampled in this fishery, with observers generally sampling two nets per vessel. Formal bycatch estimates expanded to the entire fleet are not currently available; however, the bycatch is summarized by numbers of individuals and by weight. (Table D.1.2.1).

Table D.1.2.1. Species documented from bycatch characterization samples, based on observer coverage of the South Atlantic rock shrimp fishery from 2018 through 2022. The bycatch is summarized by numbers of individuals and by weight (kilograms).

Species	Numbers	Species	Weight (kg)
Longspine Swimming Crab	668,181	Inshore Lizard Fish	5,518
Brown Shrimp	85,404	Longspine Swimming Crab	5,420
Iridescent Swimming Crab	60,354	Dusky Flounder	2,676
Dusky Flounder	48,531	Brown Shrimp	2,421
Inshore Lizard Fish	41,241	Iridescent Swimming Crab	1,276
Rock Sea Bass	20,830	Spot	903
Bank Sea Bass	9,184	Rock Sea Bass	721
Spot	7,041	Atlantic Croaker	521
Atlantic Croaker	3,576	Bank Sea Bass	317
Pink Shrimp	3,222	Summer Flounder	286
Summer Flounder	1,081	Pink Shrimp	197
Southern Flounder	183	Atlantic Sharpnose Shark	161
Seatrout	90	Southern Flounder	48
Atlantic Sharpnose Shark	81	Black Sea Bass	5
Florida Pompano	69	Red Lionfish	5

The data from observer coverage reveal the dominant bycatch species in the fishery. Longspine swimming crab was the most common bycatch by number and the second most common by weight. Inshore lizardfish was the most common species by weight and was also in the top five by numbers. Other significant bycatch species, appearing in the top five by both numbers and weight, included brown shrimp, dusky flounder, and iridescent swimming crab.

Of the species listed in the bycatch table, brown shrimp, pink shrimp, and black sea bass are managed by the SAFMC under the Shrimp and Snapper Grouper Fishery Management Plans, respectively. The remaining finfish and invertebrate species in the bycatch table are not typically targeted in Southeast commercial or recreational fisheries and have not undergone formal stock assessments. Although bycatch reduction devices are mandated for the rock shrimp fishery and are believed to be sufficient for stock protection, data are inadequate for a formal, coast-wide assessment of these species (SAFMC 2005). The continued prohibition on the use of bottom longline, dredge, pot, or trap gear within the proposed SFAA is expected to provide ongoing biological benefits to bottom-dwelling species.

D.2. Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality

The proposed action in this amendment aims to allow access to an historic rock shrimp fishing area that was closed with the implementation of Coral Amendment 8 in 2015. **Preferred Alternative 2** and **Alternative 3** would establish SFAAs of approximately 14.10 square nautical miles (NM^2) or 18.87 NM^2, respectively, allowing commercial rock shrimp vessels to bottom trawl within these areas. Other bottom-tending gear and anchoring would remain prohibited. The establishment of this SFAA could result in negative indirect biological impacts to deepwater coral via plumes of sediment resulting from the trawling.

Both **Preferred Alternative 2** and **Alternative 3** may have negative impacts on finfish species caught as bycatch. However, historical fishing effort in the area was low, and impacts on commercially or recreationally important species are expected to be low.

D.3. Ecological Effects Due to Changes in Bycatch

The ecological effects of bycatch mortality are similar to those of fishing mortality from directed efforts; if not properly managed, they can reduce stock biomass to unsustainable levels. Currently, bycatch estimates within the proposed SFAA are likely to be based on historic fishing activity in this area. The SFAA is intended to be in a location where coral presence is not indicated.

In addition, the rock shrimp vessels with a limited access endorsement for South Atlantic rock fish would be allowed to fish in the SFAA, and these vessels must ensure that they have an operating vessel monitoring system (VMS). The VMS requirements include a communication rate of 1 ping per 5 minutes within the OHAPC. This requirement would continue if the vessel is fishing within the SFAA and is expected to facilitate enforcement and protect the *Oculina* coral habitat.

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

The proposed action to establish an SFAA is intended to restore access to historically fished grounds where there is no known coral. While this reopens an area to fishing in the OHAPC, the historical fishing effort in this area was low. The action is not expected to significantly increase overall fishing effort or change the overall spatial/temporal distribution of current fishing effort within the South Atlantic region.

There is some concern that the establishment of the SFAA could result in negative biological impacts to deepwater coral habitat due to intermittent bottom trawling. However, trawling is expected to occur in areas of low relief and predominately sand bottom, which have already been impacted by past fishing activities. Historical fishing effort in the proposed area was low,

averaging less than 1.8% of total VMS fishing points, suggesting the impact is expected to be minimal. Fishermen tend to avoid hard bottom habitat to prevent snags and gear loss.

In 2022, the SEFSC conducted a visual survey of the proposed SFAAs, utilizing a towed camera system to classify bottom types as live (standing), dead (standing), rubble, or sand. Out of 14 dives, only two successfully classified bottom type. The survey concluded that all live *Oculina* coral colonies have historically been found on medium and high-relief habitat, with rubble at the perimeter, and no standing live or dead colonies have been observed in low-relief areas. Based on the successful tows, no live, standing dead, or rubble was observed in or immediately adjacent to the SFAA. While the SEFSC could not definitively state the absence of live *Oculina* within the SFAA, they predicted a very low likelihood based on existing multibeam bathymetry showing only low or no relief.

In addition to the 2022 visual survey, in April 2025, the National Oceanic and Atmospheric Administration (NOAA) Ship *Nancy Foster* performed a mapping trip in the proposed SFAA. This mapping trip collected bathymetry and backscatter data at 2-meter (m) resolution across the proposed SFAA. Mapping showed that mound features formed by *Oculina* corals were not evident in the proposed SFAA. Both studies indicate that there is no live or dead *Oculina* coral within the proposed SFAA and that since the area was closed to rock shrimp fishing in 2014 there has been no coral growth within the area.

Therefore, the degree and likelihood of potential direct biological impacts from bottom-tending fishing gear on coral habitat as a result of **Preferred Alternative 2** and **Alternative 3** are low based on current habitat mapping and characterization. While no high relief mounds are present, low-relief hard bottoms and coral rubble could be providing substrate for coral recruitment and recovery from previous trawling events. Sedimentation from trawling could also negatively affect corals by smothering polyps, shading, and reducing recruitment and survival of larvae. Fine sediments, which are present in higher concentrations near *Oculina* reefs, tend to have greater negative effects. Sediment plumes from trawling can spread for hundreds of meters laterally. The western boundaries of the proposed SFAA are approximately 360-1580 m west from known *Oculina* pinnacles (Appendix F). **Preferred Alternative 2** provides a larger buffer from known coral pinnacles compared to **Alternative 3**.

D.5. Effects on Marine Mammals and Birds

Under Section 118 of the Marine Mammal Protection Act (MMPA), 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 Southeastern U.S. Atlantic and Gulf of Mexico shrimp trawl fishery, which includes the rock shrimp fishery, continues to be listed as a Category II fishery under the Marine Mammal Protection Act (MMPA) proposed List of Fisheries (LOF) for 2025 (September 24, 2024, 89 FR 77789). The categorization as Category II is supported by ongoing reviews of information, including Marine Mammal Stock Assessment Reports (SARs), injury determination reports, observer data, logbook data, stranding data, disentanglement network data, fishermen self-

reports, and anecdotal reports. While specific recent take numbers for rock shrimp trawls exclusively in the South Atlantic are not always disaggregated from the other shrimp fishing in the area, the overall shrimp trawl fishery in the region (South Atlantic and Gulf) has documented marine mammal interactions.

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 and South Carolina during the summer. Sightings are considered rare and only occurring in low numbers (Also 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 South Atlantic fisheries has not been reported as a concern for either of these species.

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

Detailed descriptions of any expected changes associated with fishing, processing, disposal, and marketing costs are contained in **Section 4.0**. The action contained within this amendment is expected to result in net economic benefits by allowing vessels to potentially increase rock shrimp landings. The economic effects are difficult to quantify due to variability in area usage and overall participation in the fishery. However, **Alternative 3**, being larger, would likely offer comparatively higher economic benefits than **Preferred Alternative 2**. Increased landings would be expected to increase gross revenue and producer surplus for vessels and indirectly benefit dealers.

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

Detailed descriptions of any expected changes associated with fishing practices and the behavior of fishermen are contained in **Section 4.0. Preferred Alternative 2** and **Alternative 3** would impact the rock shrimp fleet by reopening some historic fishing grounds. The size and location of the SFAA are the most significant factors that would positively impact fishermen. Access to these areas is particularly important to these fishermen in years when rock shrimp are present, despite variable regular use in these areas in the past. **Preferred Alternative 2** represents the most recent recommendation by rock shrimp fishermen and is supported by the Deepwater Shrimp Advisory Panel.

The establishment of a transit provision through the Oculina HAPC in Coral Amendment 8 for rock shrimp fishermen with rock shrimp onboard had a positive effect on shrimp operations by reducing travel distance and enhancing safety in poor weather conditions. The transit provision allows shrimp fishermen with rock shrimp onboard to traverse the OHAPC to reach fishing grounds on the western side under the following conditions: fishing gear must be appropriately stowed, meaning the doors and nets are out of the water, and the vessel must maintain a minimum speed of 5 knots as determined by the VMS system[19]. To ensure this speed is maintained the VMS communication rate is required to increase from the baseline requirement of

[19] https://www.ecfr.gov/current/title-50/part-622#p-622.224(b)(1)(i)(C)

one communication per hour to one communication per five minutes when the vessel is within the OHAPC. This amendment does not modify that transit provision, and fishermen must continue to maintain the gear stowage and speed requirements when transiting the OHAPC. While executing the fishery in the proposed SFAA, vessels will continue to be required to maintain the communication rate of 1 communication per five minutes, but not the 5 knot speed requirement. Maintaining this communication rate will aid law enforcement in monitoring the area to protect coral.

D.8. Changes in Research, Administration, and Enforcement Costs and Management Effectiveness

The establishment of an SFAA would have minimal administrative impacts. Existing VMS requirements in the rock shrimp fishery enhance enforcement and help protect the *Oculina* coral habitat within the OHAPC. Administrative impacts would be incurred through the rulemaking process, outreach, and enforcement, with potential initial costs for VMS reconfiguration for NOAA and industry. However, these are expected to be minimal given the small size of the proposed SFAAs.

Research is ongoing to discover additional deepwater coral areas, and the South Atlantic Council actively provides protection for these areas. Collaborative efforts between the South Atlantic, Mid-Atlantic, and New England Fishery Management Councils are in place to coordinate deep-sea coral conservation.

Monitoring of the rock shrimp fishery occurs through VMS and a mandatory observer program, though observer coverage for rock shrimp trips has been less than 1%.

Cooperative research projects (CRP) between science and industry are being used to a limited extent to collect bycatch information from fisheries in the Gulf and South Atlantic. Research funds for observer programs, as well as gear testing and testing of electronic devices are also available each year in the form of grants from the Marine Fisheries Initiative, Saltonstall-Kennedy program, and the CRP. Efforts are made to emphasize the need for observer and logbook data in requests for proposals issued by granting agencies. A condition of funding for these projects is that data are made available to the Councils and NMFS upon completion of a study.

Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). NMFS authorizes organizations and volunteers under the MMPA to respond to marine mammal strandings throughout the United States. These organizations form the stranding network whose participants are trained to respond to, and collect samples from live and dead marine mammals that strand along southeastern United States beaches. The SEFSC is responsible for: coordinating stranding events; monitoring stranding rates; monitoring human caused mortalities; maintaining a stranding database for the southeast region; and conducting investigations to determine the cause of unusual stranding events

including mass strandings and mass mortalities (http://www.sefsc.noaa.gov/species/mammals/strandings.htm).

The NMFS Southeast Regional Office and the SEFSC participate in a wide range of training and outreach activities to communicate bycatch related issues. The NMFS Southeast Regional Office issues public announcements, Southeast Fishery Bulletins, or News Releases on different topics, including use of turtle exclusion devices, bycatch reduction devices, use of methods and devices to minimize harm to turtles and sawfish, information intended to reduce harm and interactions with marine mammals, and other methods to reduce bycatch for the convenience of constituents in the southern United States. These are mailed out to various organizations, government entities, commercial interests and recreational groups. This information is also included in newsletters and publications that are produced by NMFS and the various regional fishery management councils. Announcements and news released are also available on the internet and broadcasted over NOAA weather radio.

Additional administrative and enforcement efforts would help to implement and enforce fishery regulations. NMFS established the South East Fishery-Independent Survey in 2010 to strengthen fishery-independent sampling efforts in southeast U.S. waters, addressing both immediate and long-term fishery-independent data needs, with an overarching goal of improving fishery-independent data utility for stock assessments. Meeting these data needs is critical to improving scientific advice to the management process, ensuring overfishing does not occur, and successfully rebuilding overfished stocks on schedule.

D.9. Changes in the Economic, Social, or Cultural Value of Fishing Activities and Non-Consumptive Uses of Fishery Resources

The proposed action is expected to result in net economic and social benefits by allowing increased rock shrimp landings through access to the SFAA. These benefits address stakeholder concerns regarding access to historically important fishing grounds and may improve perceptions of the management process. Discussion associated effects, costs, and benefits associated with various alternatives are described in **Chapter 4.0**.

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

The distribution of benefits and costs expected from the proposed actions in this amendment are discussed in the economic and social effects analysis in Chapter 4. These effects are discussed in relation to the baseline economic and social conditions of the fishery and fishing communities outlined in Chapter 3 of the document. Additionally, the Regulatory Impact Review (Appendix B) and Regulatory Flexibility Act Analysis (Appendix C) provide additional information on changes in the distribution of benefits and costs. The proposed actions are expected to provide greater opportunities for rock shrimp fishermen in the SFAA. None of the actions and alternatives in are likely to change the current level of bycatch of target or non-target species in the South Atlantic.

D.11 Social Effects

The baseline social environment and social effects of the proposed actions are described in Chapters 3 and 4 of the amendment, respectively. In general, fishermen become frustrated as waste of the resource increases due to regulatory bycatch of target and non-target species. This often results in a distrust of science in that regulations are intended to protect stocks and rebuild overfished stocks by reducing such bycatch. However, none of the actions and alternatives in this amendment are likely to change the current level of bycatch of target or non-target species in the South Atlantic and thus are unlikely to result in the negative social effects described.
The proposed actions are expected to provide greater opportunities for rock shrimp fishermen in the SFAA. The transit provision (Section D.7) through the OHAPC, established through Coral Amendment 8, is expected to continue providing socio-economic benefits and enhance safety for rock shrimp fishermen. Additionally, any fishing in the SFAA will be documented with VMS as an added protection to ensure fishing does not occur in areas outside the SFAA. The social effects of all the proposed management measures are described in **Chapter 4.0**.

D.12 Conclusion

This analysis evaluates the practicability of minimizing bycatch and bycatch mortality under the proposed action. The core action of establishing an SFAA along the eastern boundary of the northern extension of the OHAPC aims to restore historic fishing grounds for the rock shrimp fishery. While bottom trawling inherently carries a risk of bycatch and habitat impact, current information suggests that the proposed SFAA areas have low or no relief and a very low likelihood of live *Oculina* coral. Historical fishing effort in these specific areas was also low. The management measures, including VMS requirements, are intended to mitigate potential negative biological impacts by ensuring fishing occurs within designated areas and that transit provisions are followed. Ongoing research and monitoring efforts aim to improve data collection for bycatch and ecosystem health.

Overall, the proposed action is anticipated to have minimal biological impacts on deepwater coral, protected species and other species in the SFAA, given the current understanding of the habitat. They are expected to result in net economic and social benefits by improving access to the rock shrimp fishery in historically utilized areas. Therefore, the proposed action is deemed, to the extent practicable, to minimize bycatch and bycatch mortality while achieving the purpose and need of the amendment.

DRAFT DOCUMENT

Appendix E. Essential Fish Habitat and Ecosystem-Based Management

E.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 2009), individual FMPs, general information on the EFH provisions of the Magnuson-Stevens Act and its implementing regulations (50 C.F.R Part 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 Deepwater Ecosystems
Building on the long-term conservation approach, the Council facilitated the evolution of the Habitat Plan into FEP and FEP II 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 deepwater coral HAPCs (CHAPCs) and co-designated them as EFH-HAPCs.

E.2. EFH for species managed under the Coral FMP

Essential Fish Habitat (EFH) for hermatypic stony corals includes rough, hard, exposed, stable substrate from Palm Beach County south through the Florida reef tract in subtidal to 30 m depth, subtropical (15°-35° C), oligotrophic waters with high (30-35o/oo) salinity and turbidity levels sufficiently low enough to provide algal symbionts adequate sunlight penetration for photosynthesis. Ahermatypic stony corals are not light restricted, and their essential fish habitat includes defined hard substrate in subtidal to outer shelf depths throughout the management area.

EFH for *Antipatharia* (black corals) includes rough, hard, exposed, stable substrate, offshore in high (30-35o/oo) salinity waters in depths exceeding 18 meters (54 feet), not restricted by light penetration on the outer shelf throughout the management area.

EFH for octocorals excepting the order Pennatulacea (sea pens and sea pansies) includes rough, hard, exposed, stable substrate in subtidal to outer shelf depths within a wide range of salinity and light penetration throughout the management area.

EFH for Pennatulacea (sea pens and sea pansies) includes muddy, silty bottoms in subtidal to outer shelf depths within a wide range of salinity and light penetration.

E.3. HAPCs and C-HAPCs for species managed under the Coral FMP

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for coral, coral reefs, and live/hard bottom include The 10-Fathom Ledge, Big Rock, and The Point (North Carolina); Hurl Rocks and The Charleston Bump (South Carolina); Gray's Reef National Marine Sanctuary (Georgia); The *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; Oculina Banks off the east coast of Florida from Ft. Pierce to Cape Canaveral; nearshore (0-4 meters; 0-12 feet) hard bottom off the east coast of Florida from Cape Canaveral to Broward County); offshore (5-30 meter; 15-90 feet) hard bottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary.

Under the FMP for Coral, Coral Reefs and Live/Hard Bottom Habitat, SAFMC can use its regulatory authority to designate coral-HAPCs to eliminate or reduce the impact of fishing on those habitats. The first CHAPC that SAFMC designated was Oculina Bank in 1984. This area was expanded in 2000 to include the Oculina Experimental Closed Area and expanded again to include the northern extension in 2013. In 2010, SAFMC designated five new coral-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, and Pourtalés Terrace Coral HAPC. SAFMC added the EFH-HAPC designation to each of these areas in 2012 via CEBA-2.

E.4. 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 an 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.

E.5. 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 150-300 m 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 deepwater 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, 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.

E.6. EFH for species managed under the Shrimp FMP

SAFMC's EFH designation for shrimp applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys. Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for *Penaeid Shrimp* (SAFMC 1998b):
For penaeid shrimp, Essential Fish Habitat (EFH) includes inshore estuarine nursery areas, offshore marine habitats used for spawning and growth to maturity, and all interconnecting water bodies as described in the Habitat Plan. Inshore nursery areas include tidal freshwater (palustrine), estuarine, and marine emergent wetlands (e.g., intertidal marshes); tidal palustrine

forested areas; mangroves[20], tidal freshwater, estuarine, and marine submerged aquatic vegetation (e.g., seagrass); and subtidal and intertidal non-vegetated flats. This applies from North Carolina through the Florida Keys.

EFH Designations in the Comprehensive Amendment for *Rock Shrimp* (SAFMC 1998b):
For rock shrimp, Essential Fish Habitat (EFH) consists of offshore terrigenous and biogenic sand bottom habitats from 18 to 182 meters in depth with highest concentrations occurring between 34 and 55 meters. This applies for all areas from North Carolina through the Florida Keys. EFH includes the shelf current systems near Cape Canaveral, Florida which provide major transport mechanisms affecting planktonic larval rock shrimp. These currents keep larvae on the Florida Shelf and may transport them inshore in spring. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse rock shrimp larvae.

Designations in the Comprehensive Amendment for *Royal Red Shrimp* (SAFMC 1998b):
Essential Fish Habitat (EFH) for royal red shrimp include the upper regions of the continental slope from 180 meters (590 feet) to about 730 meters (2,395 feet), with concentrations found at depths of between 250 meters (820 feet) and 475 meters (1,558 feet) over blue/black mud, sand, muddy sand, or white calcareous mud. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse royal red shrimp larvae.

E.7. HAPC for species managed under the Shrimp FMP

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for penaeid shrimp include all coastal inlets, all state-designated nursery habitats of particular importance to shrimp (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas), and state-identified overwintering areas.

Clarifications to Designations for *Penaeid Shrimp:*

1. The public and resource agencies have requested a complete list of the state-designated areas that may function as nursery habitats of species managed by the SAFMC. T Appendix 1 of the User Guide contains a complete list of State protected areas with marine and or estuarine waters that function as nursery habitat and/or that are designated as EFH or EFH-HAPC for Council-managed species. No state-identified overwintering grounds have been identified for penaeid shrimp.
2. Coastal inlets include the throat of the inlet as well as shoal complexes associated with the inlets (SAFMC User guide, Figure 2). Shoals formed by waters moving landward through the inlet are referred to as flood tidal shoals, and shoals formed by waters moving waterward through the inlet are referred to as ebb tidal shoals.

[20] Mangroves are defined by this document as a tree or shrub that grows in chiefly tropical coastal swamps that are flooded at high tide. This definition includes coastal areas dominated by buttonwoods as they are habitat with similar ecosystem services.

Clarifications to Designations for *Rock Shrimp:*
No clarifications of these designations have been requested during EFH consultations.

Clarifications to Designations for *Royal Red Shrimp*:
No clarifications of these designations have been requested during EFH consultations.

E. 8 References

GMFMC (Gulf of Mexico Fishery Management Council and SAFMC (South Atlantic Fishery Management Council). 1984. FMP for Coral, Coral Reefs of the Gulf of Mexico and South Atlantic (Coral FMP). Gulf of Mexico Fishery Management Council 4107 W Spruce St #200, Tampa, FL 33607 and the South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, North Charleston, SC 29405.

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SAFMC (South Atlantic Fishery Management Council). 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.

SAFMC (South Atlantic Fishery Management Council). 2024. Users Guide to Essential Fish Habitat Designations by the South Atlantic Fishery Management Council. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, North Charleston, SC 29405.

Appendix F. OHAPC SFAA Mapping Results 2025 Update

In April 2025, NOAA Ship *Nancy Foster* collected bathymetry and backscatter data at 2m resolution across the 14.10 square nautical miles proposed shrimp fishery access area (SFAA) in the *Oculina* Bank Habitat Area of Particular Concern (OHAPC). Figure F.1.1 shows the OHAPC and proposed SFAA with available bathymetric information and spatially-precise *Oculina varicosa* observations. Data from the April expedition (NF2501) have been processed comprehensively and the bathymetry surface in particular shows few artifacts. Backscatter data were also collected to indicate relative hardness or roughness of the seafloor, with hard bottom and smooth surfaces each reflecting sound more strongly and appearing lighter in color (Fig. F.1.2).

Known *Oculina* observations occur in a consistent depth range along the inshore extent of the OHAPC. The western boundary of the proposed SFAA is slightly deeper than these observations by a horizontal distance of approximately 300-1000 m. Mound features formed by these corals are not evident in the NF2501 multibeam bathymetry data collected in April 2025 inside the SFAA. Relatively large coral mounds are visible as small, elevated circles in older multibeam bathymetry data collected by NOAA Southeast Fisheries Science Center in 2005, to the south of proposed SFAA (Fig.F.1.3).

The newest NOAA BlueTopo compilation also suggests that *Oculina* mounds extend along the same north-south line just west of the entire proposed SFAA. The regional BlueTopo, consisting primarily of interpolated bathymetry surfaces in the area around the OHAPC, does not resolve individual corals or mounds; it suggests the presence of relatively large aggregations of mounds. No large areas of coral mounds are visible in BlueTopo within the proposed SFAA (Fig. F.1.4).

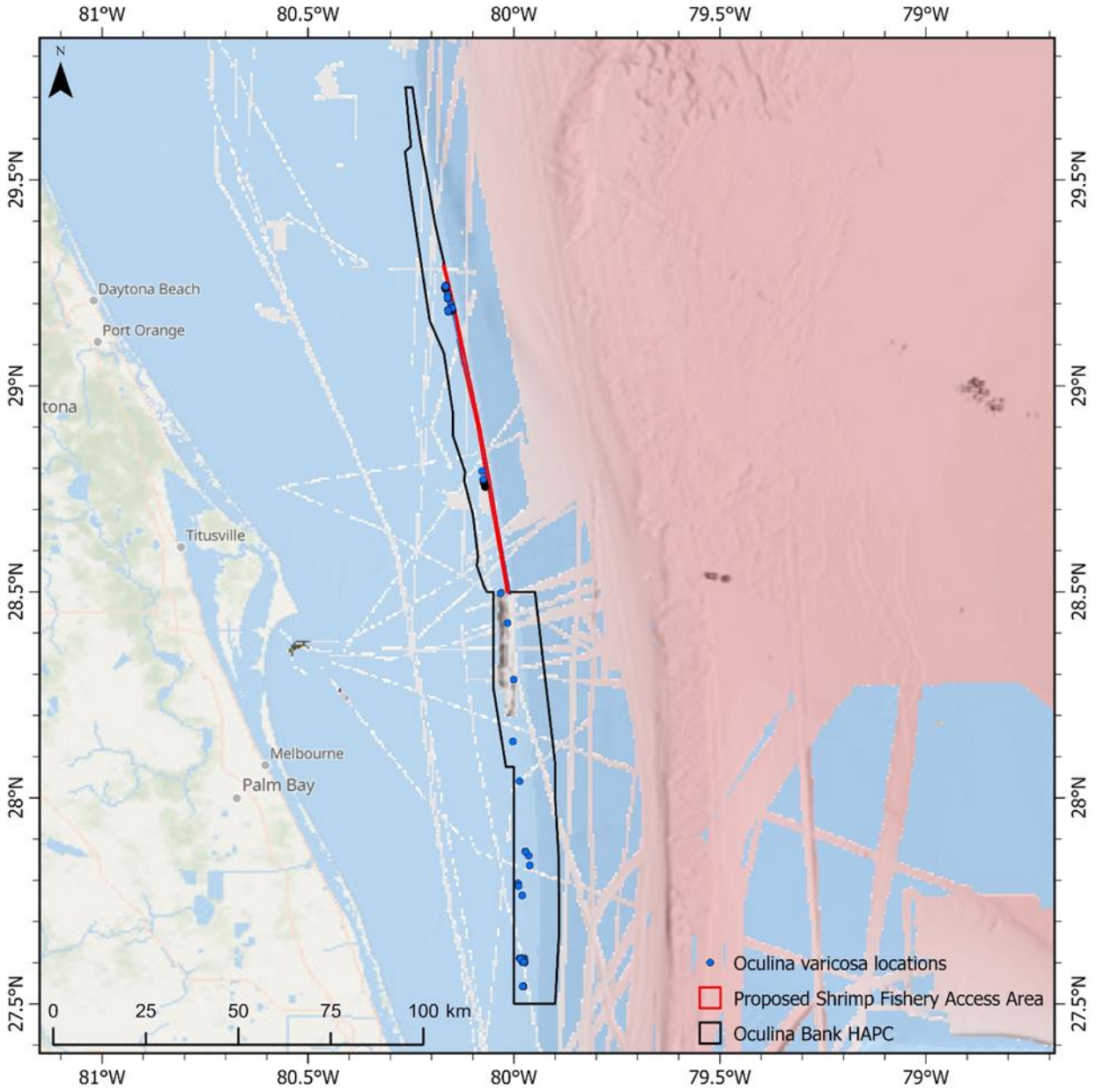

Figure F.1.1. Locations of the Oculina Bank Habitat Area of Particular Concern (HAPC, outlined in black) and proposed Shrimp Fishery Access Area (outlined in red) offshore South Florida. Spatially precise (±20 m) known locations of Oculina varicosa occurrence (blue circles) are included from the NOAA National Database for Deep-Sea Corals and Sponges. Available multibeam bathymetry (pink shading) from the NOAA National Centers for Environmental Information is also shown. There is very limited contiguous multibeam bathymetry data available within the OHAPC, since much of the existing coverage comes from vessel transits.

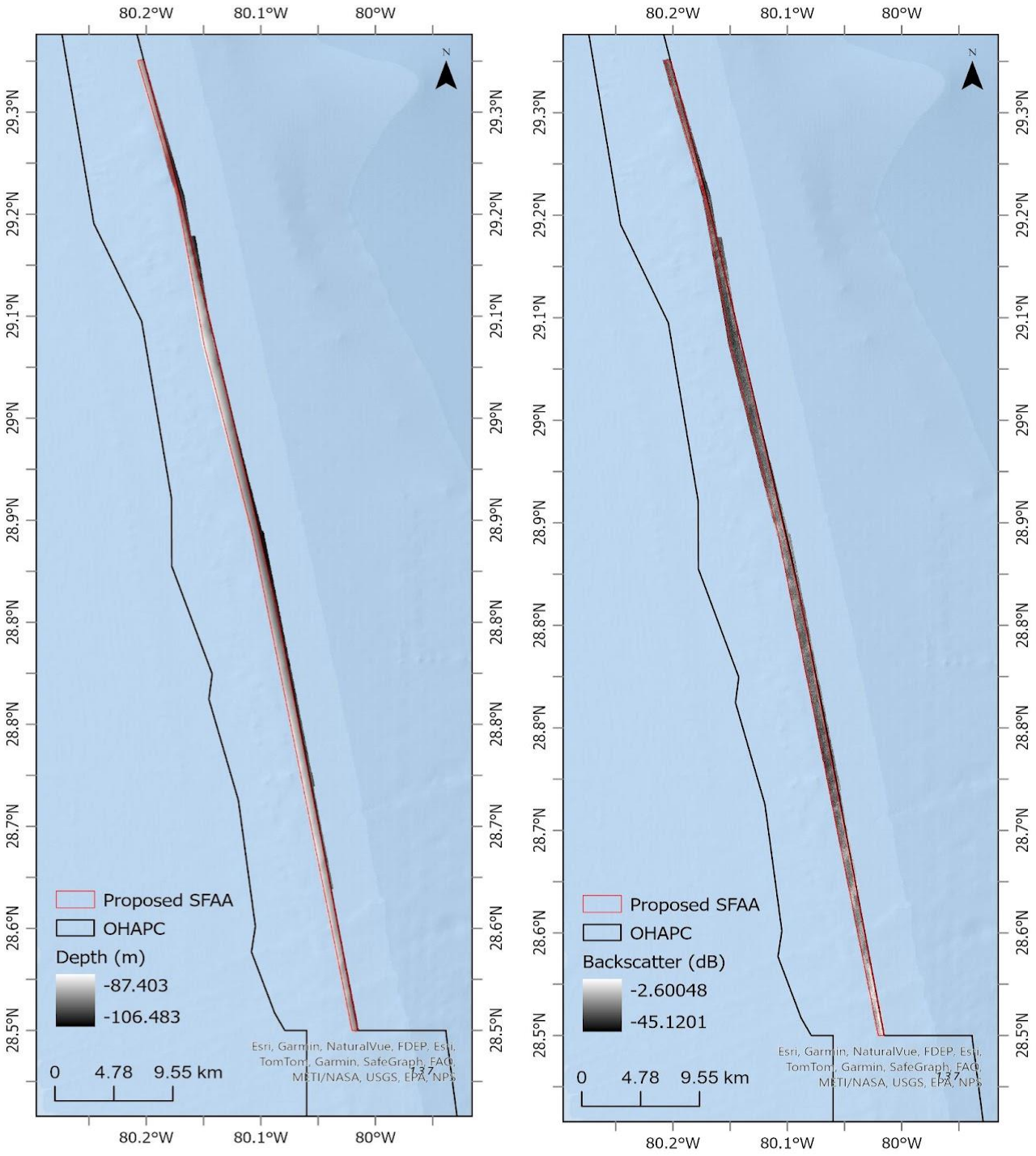

Figure F.1.2. Bathymetry (left) and backscatter (right) in the proposed SFAA collected in 2025 demonstrate depth ranges and substrate hardness suitable to support Oculina varicosa colonies.

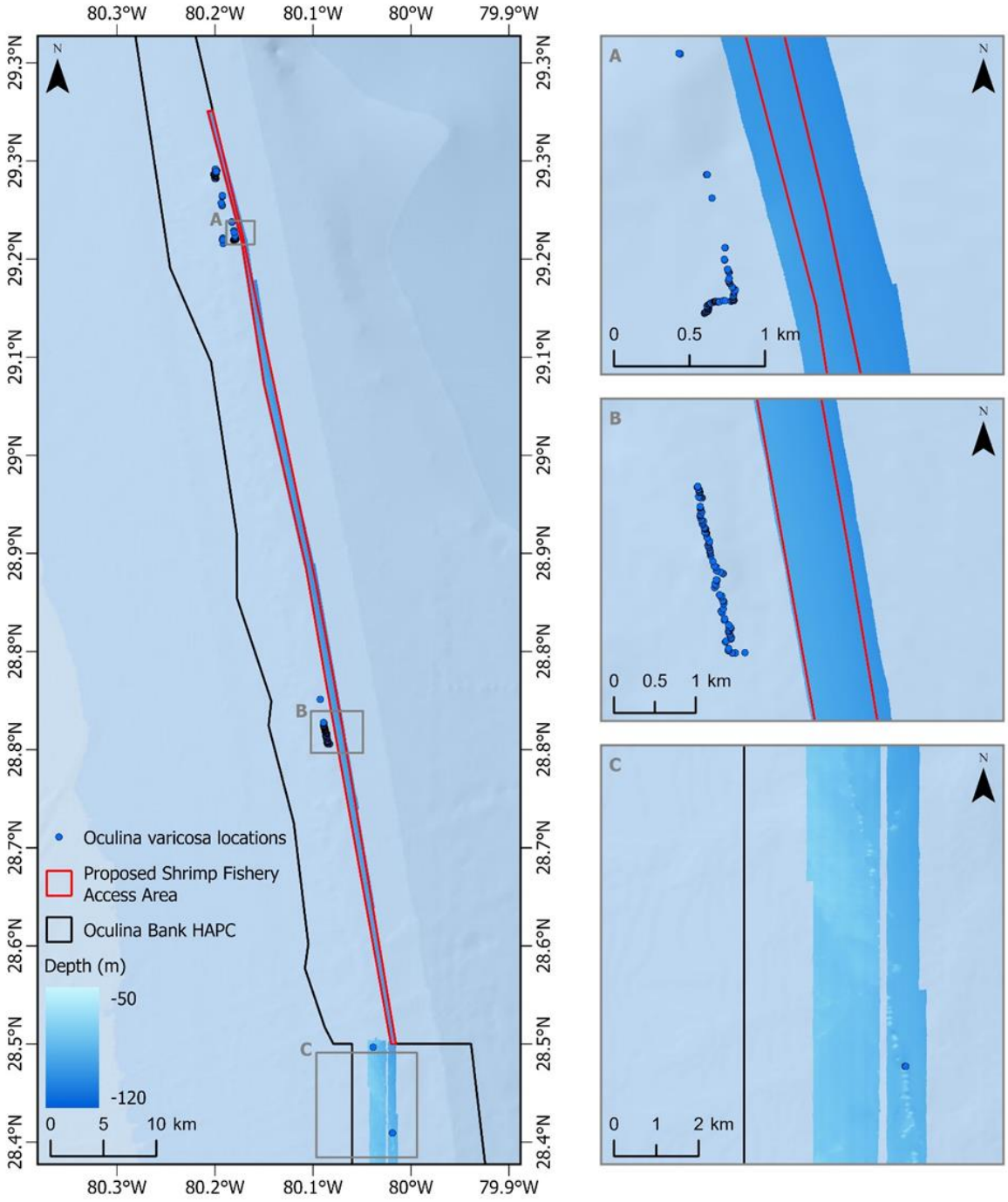

Figure F.1.3. *Oculina varicosa* colonies have been observed 360-1580 m west of the proposed SFAA. *Oculina* mounds are not evident in multibeam bathymetry collected by NOAA Ship *Nancy Foster* in April 2025 inside the proposed SFAA (e.g., panels A and B). In contrast, coral mounds are visible as lighter colored circles in the multibeam bathymetry collected by NOAA Southeast Fisheries Science Center in 2005 to the south of the proposed SFAA (panel C).

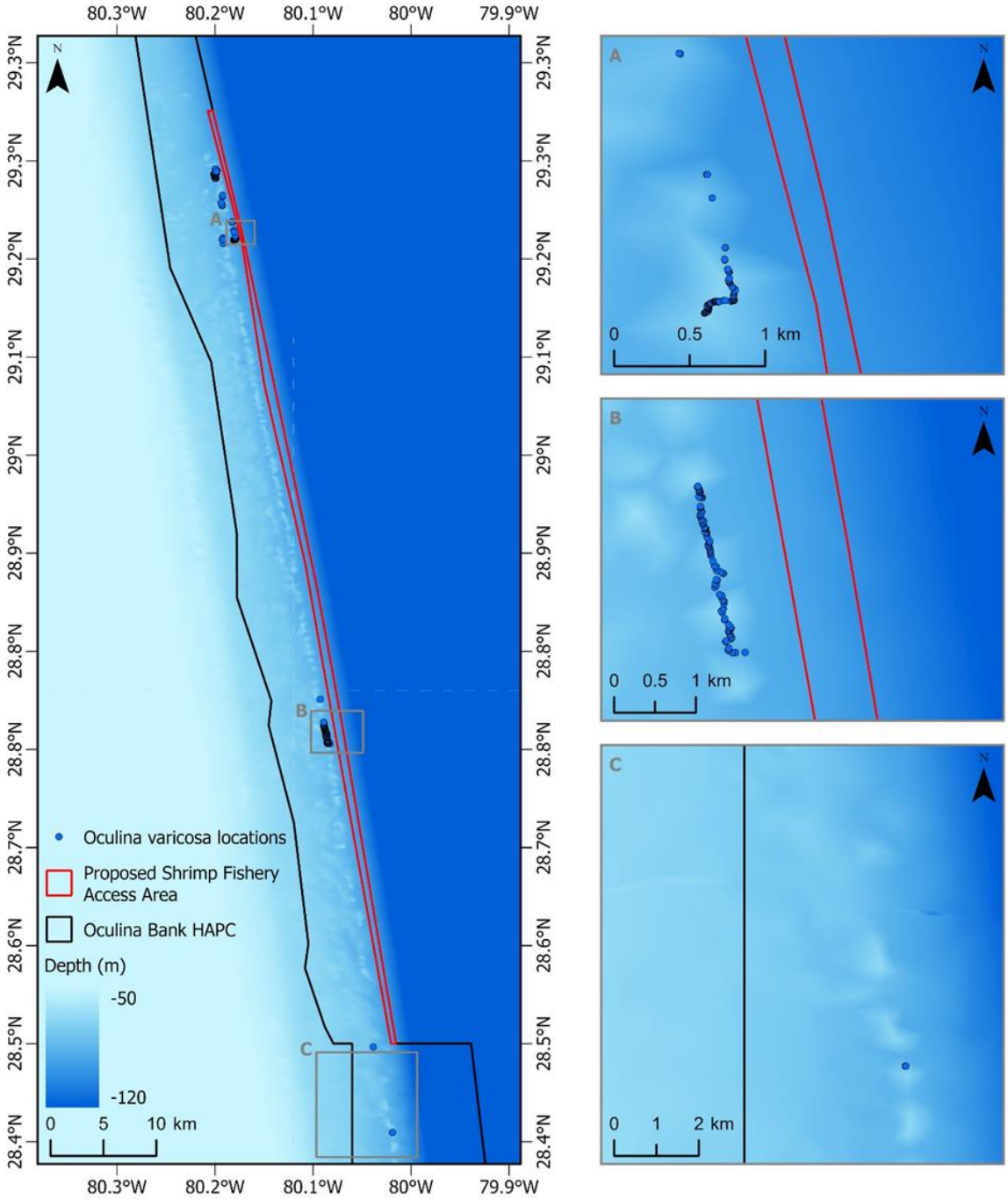

Figure F.1.4. Coral mounds are shown as small, elevated (i.e., lighter colored) shapes in the NOAA BlueTopo layer, visible in the background of this figure. Because underlying low resolution bathymetry data were collected primarily in the 1960s, individual coral mounds are not discernable, but aggregations are shown in panels A-C. No large areas of coral mounds are visible in BlueTopo within the proposed SFAA.

DRAFT DOCUMENT

Appendix G. Visual Survey of the proposed Shrimp Fishery Access Area (SFAA) within the *Oculina* Habitat Area of Particular Concern (OHAPC) 28 May – 03 June 2022

Summary:

- The SEFSC was tasked with generating a quick-turnaround survey to provide visual data on the presence or absence of *Oculina* coral in the SFAA to the SEFSC, SERO and NOAA Fisheries.
- The SEFSC used a towed camera system as our observation platform. 14 dives were made but with currents between 4 and 5 kts, only 2 dives were successful.
- The data revealed no *Oculina*, live, dead or rubble, observed in the ~35 km surveyed (~27 km in the SFAA, ~7.5 km immediately east & west of the SFAA).
- In the >25 years of working on *Oculina* reefs off the east coast of Florida, all live colonies have been found on medium and high relief habitat. *Oculina* rubble is often found along the perimeter of the relief. The SEFSC has never observed live or standing dead colonies on the low and no relief areas between *Oculina* mounds, although small amounts of dispersed rubble have been noted.
- No live, standing dead or *Oculina* rubble was observed in or immediately adjacent to the SFAA in the May-June 2022 SEFSC visual survey.
- While the SEFSC cannot state definitively that no live *Oculina* colonies exist within the SFAA, based upon the results of the visual survey and the existing multibeam bathymetry of the entire SFAA (which shows only low or no relief), we predict the likelihood of live *Oculina* within the SFAA is very low.

For the full presentation, please refer to the SAFMC September 2022 Briefing book. The presentation is linked here: https://safmc.net/documents/fc2_a4_sefsc-oculina-hapc-survey-presentation_sept2022/

Figure G.1. Representative image of bottom within the SFAA. Sand/mud with small amount of shell hash. Laser spacing is 10 cm**.**

Appendix H. Fishery Impact Statement

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires a Fishery Impact Statement (FIS) be prepared for all amendments to Fishery Management Plans (FMPs). The FIS contains an assessment of the likely biological, social, and economic effects of the conservation and management measures on: 1) fishery participants and their communities; 2) participants in the fisheries conducted in adjacent areas under the authority of another Council; and 3) the safety of human life at sea.

Detailed discussion of the expected effects for all proposed changes is provided in Chapters 1 and 2. The FIS provides a summary of these effects. Actions Contained in Amendment 11 to the Fishery Management Plan (FMP) for Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (Coral FMP) and Amendment 12 to the Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region (Shrimp FMP) would expand access to a historic rock shrimp fishing area within the Oculina Bank Coral Habitat Area of Particular Concern (OHAPC) through establishment of a shrimp fishery access area (SFAA). Preferred Alternative 2 would establish an SFAA that is 14.10 mi^2 in area along the eastern edge of the northern extension of the OHAPC and allow a shrimp vessel with a valid commercial South Atlantic Rock Shrimp limited access permit to bottom trawl within the established area.

H.1 Assessment of Biological Effects

Preferred Alternative 2 would not result in negative direct impacts to coral since, in the multiple mapping studies that have been conducted in the area observed no live, standing dead, or rubble in or immediately adjacent to the SFAA.

Indirect effects to coral could result through influx of suspended benthic sediments created while trawling the bottom. Increased sedimentation can cause smothering and burial of coral polyps, shading, tissue necrosis, population explosions of bacteria in coral mucus, and generally reduces recruitment, survival, and settlement of coral larvae (Erftemeijer et al. 2012). Coral recruits are particularly susceptible to sedimentation and an increase in fine sediment can significantly reduce coral recruit survival. Depending on direction and magnitude of water currents in the affected area, shrimp trawls could create sediment plumes during fishing operations and the plumes could be transported to coral habitats. Reed (2006) describes the current flow for the Oculina Habitat Area of Particular Concern (OHAPC) as: " the northerly flowing Florida Current in the region of the Oculina reefs typically only extends down to a depth of 50-60 meters. The reefs are often inundated with a turbid, bottom nepheloid layer, and bottom currents average 8.6 cm s^{-1} but may exceed 50 cm s^{-1} (1 knot), with currents of 50-100 cm s^{-1} also occurring."

Given the western boundaries of the SFAA are approximately 360-1580 m from known Oculina pinnacles(Appendix F) and the consistently strong south to north current that exists within the OHAPC (Reed, 2006 and Scanlon, 1999), sediment would be expected to move parallel to known coral pinnacles and have a minimal impact on the coral itself unless upwellings push the water inland (towards the pinnacles) so damage by sediment should be limited.

In a review of the frequency of upwelling events mentioned in National Weather Service and Surf Reports, it was noted that only four upwelling events were mentioned in the Cape Canaveral, Florida, area from 2014 to 2024[21]. When analyzing the National Data Buoy Center, Bouy number 41009[22], which is the closest to the proposed SFAA, showed that the sea surface temperature (SST) only dropped under 75 degrees F (indicating an upwelling event) on average 1.5 days per year from 2015 – 2024.

H.2 Assessment of Economic Effects

Preferred Alternative 2 would result in net economic benefits by allowing vessels fishing for rock shrimp with bottom trawl gear to potentially increase landings of rock shrimp through access to an approximate 14.10 mi^2 area. Increases in catches of rock shrimp would be expected to allow shrimpers to get closer to attaining optimum yield.

H.3 Assessment of the Social Effects

Preferred Alternative 2 would directly address stakeholder concerns regarding access to historically important fishing grounds and may improve stakeholder perceptions of the management process, thus this proposed action would be expected to positively impact fishermen.

H.4 Assessment of Effects on Safety at Sea

The establishment of an SFAA **(Preferred Alternative 2)** is not expected to result in direct impacts to safety at sea. The proposed action would not force vessels to participate in the rock shrimp portion of the shrimp fishery under adverse weather or ocean conditions. The existing requirement of VMS would continue to provide real-time vessel location in the case of emergencies.

[21] https://www.surfline.com/surf-reports-forecasts-cams-map/@28.44846826804955,-80.58445930480958,13z https://www.weather.gov/mlb/

[22] https://www.ndbc.noaa.gov/station_page.php?station=41009

Appendix I. Actions and Alternatives Removed from Consideration

Action 1. Establish a shrimp fishery access area along the eastern boundary of the northern extension of the Oculina Bank Habitat Area of Particular Concern.

Proposed Alternative 4. Establish a shrimp fishery access area that narrows the area proposed in **Preferred Alternative 2** lengthwise (Figure I.1.1).

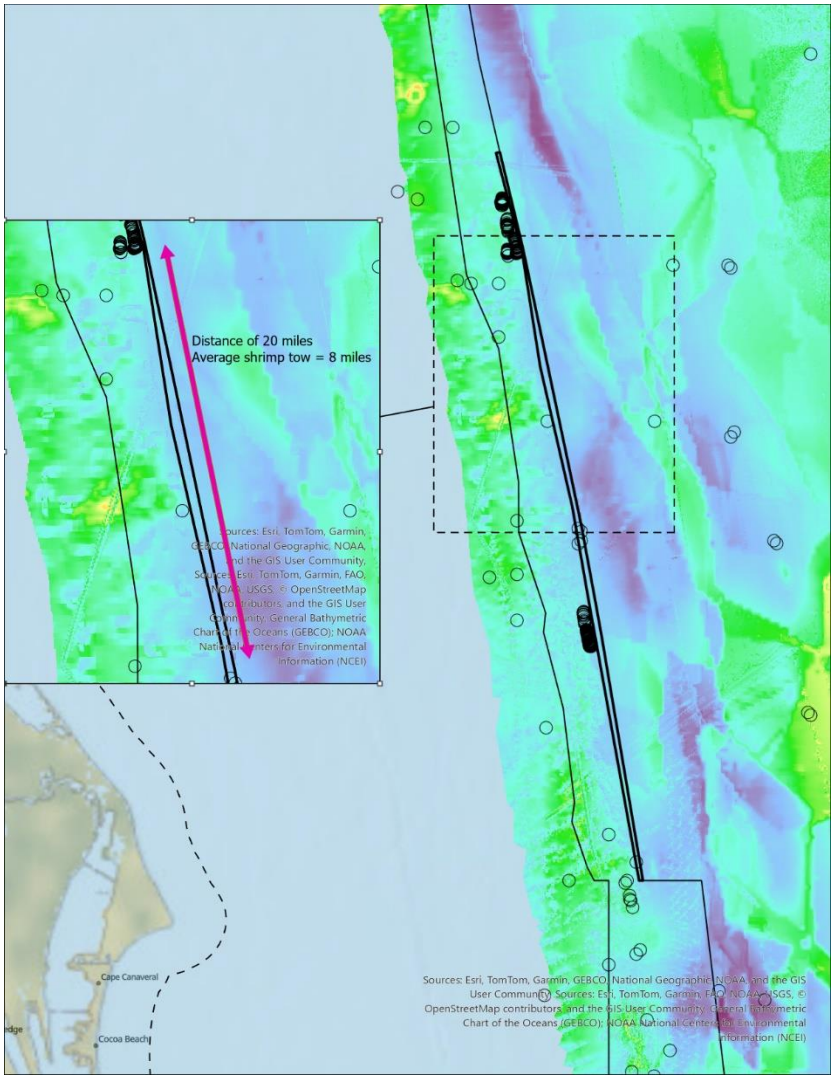

Figure I.1.1. The "Heat map" from Saldago et. al. (2022) based on a predictive algorithm. Blue denotes the least likely occurrence of coral; red/yellow denotes a high probability of coral. The circles indicate visually identified coral that have been observed and appear in the Deep-Sea Coral Data Portal (DSCRTP, 2024). The thicker black line denotes the boundary from Preferred Alternative 2. The thinner black line is the OHAPC boundary. The inset is an identified 20-mile zone with low predicted coral and no known coral locations.

Discussion: During the June 2024 Council meeting, there was discussion of adding an alternative that would shorten the **width** of the previous preferred alternative from Coral Amendment 10 (Preferred Alternative 2) to provide an additional buffer between where shrimping is conducted (according to vessel monitoring system [VMS] tracks) and the boundary of the OHAPC. During that meeting shrimp fishermen noted that they already conduct trawls with a self-imposed 0.25-mile buffer to ensure they are remaining outside the OHAPC boundary, especially in the event of VMS malfunction. Because of this feedback from shrimp fishermen, the interdisciplinary planning team (IPT) did not explore this as an alternative. After this meeting, a sub-group of the IPT met with staff from SERO, the Deep Sea Coral Research and Technology Program, National Center for Coastal Ocean Science, and the Habitat Conservation Division, which provided a heat map of predicted coral locations in and around the OHAPC as well as visually identified coral locations mapped in the Deep Sea Coral Data (SEDCI) Portal (Figure I.1.1).

Based on the locations of known coral pinnacles (based on SEDCI's data) and the lower likelihood of coral within a 20-mile stretch of the proposed SFAA in **Preferred Alternative 2**, the IPT presented a brief outline for **Proposed Alternative 4** to the Council**.** This alternative would shorten the proposed SFAA (from **Preferred Alternative 2**) length-wise, as long as the resulting length was greater than the length of an average rock shrimp tow. The identified area is roughly 20 miles long.

At the March 2025 meeting, the Council considered whether this alternative should be included in the amendment for additional analysis. Council members stated that they did not feel that this proposed alternative met the purpose and need of the amendment and emphasized that the action described in this amendment was to reopen historic rock shrimp fishing grounds that they felt were closed in error. Ultimately, the Council directed staff not to include this proposed alternative within the amendment for further consideration.