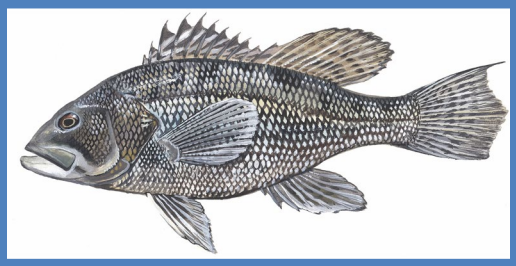

Amendment 56

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

Black Sea Bass Stock Assessment Response

Decision Document

June 2024

****NOTE: THIS DOCUMENT HAS BEEN REVISED FROM THE ORIGINAL VERSION. THE REVISED VERSION WAS POSTED IN THE JUNE 2024 COUNCIL MEETING BRIEFING BOOK ON JUNE 5, 2024. REVISIONS ARE IN RESPONSE TO A LETTER RECEIVED FROM THE NATIONAL MARINE FISHERIES SERVICE ON MAY 30, 2024, THAT PROVIDES ADDITIONAL CONTEXT TO DISCUSSIONS INCLUDED IN THIS DOCUMENT.*

Background

SEDAR 76 (2023) included data through 2021 and indicated that the Black Sea Bass stock in the South Atlantic is overfished, based on a recommended revised minimum stock size threshold (MSST) that uses a maximum sustainable yield (MSY) proxy based on 40% of the spawning potential ratio (SPR). The assessment estimated recruitment to be lower than average since 2011 and declining in each of those years. Despite declines in landings over the same period, spawning biomass has also declined, while fishing mortality has increased. Assessment, landings, and biological information is summarized in the Fishery Overview.

In March 2024, the South Atlantic Fishery Management Council (Council) received recommended overfishing limit (OFL) and acceptable biological catch (ABC) levels from the

Scientific and Statistical Committee (SSC). Due to strong declines in recent recruitment, the projection used to estimate OFL and depict expected long-term rebuilding of the stock assumes the long-term average recruitment (higher), while the projection used to estimate ABC for short-term management decisions assumes a lower recent (2014-2019) average recruitment (Table 1).

Table 1. Black sea bass overfishing limit (OFL) and acceptable biological catch (ABC) levels recommended by the Scientific and Statistical Committee, based on projections from SEDAR 76 (2023).

OFL RECOMMENDATIONS				
Year	Landed (1000 lbs ww)	Discard (1000 lbs ww)	Landed (number, 1000s)	Discard (number, 1000s)
2025	39	1299	39	3174
2026	68	1430	66	3331
2027	109	1454	100	3354
2028	165	1456	140	3356
2029	211	1457	170	3356
ABC RECOMMENDATIONS				
Year	Landed (1000 lbs ww)	Discard (1000 lbs ww)	Landed (number, 1000s)	Discard (number, 1000s)
2025	35	503	32	1164
2026	54	506	46	1167
2027	-	-	-	-
2028	-	-	-	-
2029	-	-	-	-

Projections become increasingly uncertain for years further away from the terminal year. The SSC's standard policy (as developed through the Catch Level Projections Workgroup) is to recommend ABC for no more than 5 years beyond the terminal year of data (2021 for SEDAR 76). Due to the timing of assessment completion and the time necessary to develop projections with appropriate assumptions about the future population and fishery, ABC recommendations are provided for 2 years: 2025 and 2026. Under the current ABC recommendations, the 2026 level would remain in place until a future assessment or interim analyses supporting recommended catch levels based on more recent data can be completed.

An explanation of current management challenges resulting from the declining biomass/recruitment of black sea bass and status of South Atlantic snapper grouper fisheries was presented in March 2024. A video of this explanation is linked HERE.

In a letter received from the National Marine Fisheries Service (NMFS) on May 30, 2024, NMFS stated that black sea bass will continue to be listed as not overfished and not subject to overfishing, with an expected update to the status determination criteria (SDC), as recommended by the SSC. NMFS requested that the SDC be updated to MSY proxies based on 40% SPR.

Objectives for this Meeting

- Review requested information and Advisory Panel (AP) recommendations

- Discuss actions that should initially be considered for inclusion in Amendment 56
- Consider approval for scoping

Requested Information

In March 2024, the Council requested several pieces of information to help in discussions of what management actions should be considered in this amendment. The requested information, as available, is included below, as well as a summary of the status of outstanding items.

Outstanding Items

The Council has requested additional projections from the Southeast Fisheries Science Center (SEFSC) that incorporate alternative management regimes, including equal minimum size limits for both sectors of 11, 12, and 13 inches, a slot limit, a closure matching that for shallow water grouper (waves 1 and 2), and management scenarios where dead discards are reallocated to landings. The SEFSC is developing these projections and will present them to the SSC at their August 2024 meeting, after which the projections and the SSC's recommendations on how they should be used will come to the Council. Conducting SSC review of these projection scenarios evaluating alternative management regimes at this stage of amendment development allows Council consideration of how changes to one or a few aspects of managements (such as a size limit or seasonal closure) can affect the projected number of landings and dead discards.

Southeast For-Hire Integrated Electronic Reporting (SEFHIER)

The Council requested additional information from the SEFHIER program and landings data. A letter from the SEFSC, describing appropriate uses for data from this program, will be included in the June 2024 Council Briefing Book.

Discard Mortality by Depth

SEDAR 76 maintained discard mortality rates from SEDAR 56 (2018). Discard mortality rates used in SEDAR 56 were derived from Rudershausen et al. (2014) and Rudershausen et al. (2008) and applied the following discard mortalities to the data: 14% for commercial pot discard mortality prior to 2007 (when 1.5 inch mesh pots were used), 48.3% of the 1.5" mesh pot mortality for 2007 to present (when the 2 inch back panel is required), 19% for commercial lines, 13.7% for the general recreational fleet, and 15.2% for the headboat fleet.

Rudershausen et al. (2014), used as the primary basis for the hand line estimates, estimated release survival at depths ranging from 20-35 m (65-115 ft). They did not observe a negative relationship between release survival and depth, but noted that Collins et al. (1999) sampled black sea bass in deeper waters and observed decreased survival (~25% lower) for fish caught in 43-55 m (141-180 ft).

Inshore/Offshore Catches

Table 2. South Atlantic recreational catches (shore, charter, and private trips) of black sea bass from 2019-2023 for inland, state ocean (<=3 miles), and federal ocean (>3 miles) waters.

Year	Inland	Ocean <= 3 miles	Ocean> 3 miles
	Landings (number)		
2019	4,778	17,423	388,759
2020	23,296	16,028	187,633
2021	65,012	10,306	195,872
2022	30,954	8,006	269,466
2023	97,263	19,855	232,122
	Releases (number)		
2019	2,361,811	1,167,075	4,208,745
2020	2,343,704	811,823	2,818,590
2021	2,205,874	1,110,027	2,238,182
2022	3,713,356	1,503,126	3,329,941
2023	3,563,520	1,035,373	1,522,056
	Catch (number)		
2019	2,366,589	1,184,498	4,597,504
2020	2,367,000	827,851	3,006,223
2021	2,270,886	1,120,333	2,434,054
2022	3,744,310	1,511,132	3,599,407
2023	3,660,783	1,055,228	1,754,178

Source: MRIP Public Data

Juvenile Black Sea Bass Use of Sub-Aquatic Vegetation

Black Sea Bass are an estuarine dependent species. Much of the recruitment to adult stages occurs from estuarine habitats (79% to 100%) and varies by year (Kroll 2017). Mercer (1989) and Lehnert and Allen (2002) reported Black Sea Bass around structured habitats such as jetties, oysters reefs, piers, and wrecks. Some reports note the presence of Black Sea Bass in seagrass beds or higher abundance in areas with seagrass present. Weinstein and Brook (1983) speculated that Black Sea Bass were transients to the habitat using it as a feeding location. Black Sea Bass were rare in estuarine trawl samples which generally occurred in shallow water habitats (Noble and Monroe 1991).

Interestingly, Black Sea Bass in the Gulf of Mexico do use polyhaline (brackish waters) seagrass beds as nursery habitat (Gorecki et al. 2022, Schrandt et al. 2021).

Co-Occurring Species

Data from 1993 to 2010 were used to develop regression coefficients for species that had negative and positive associations with black sea bass (SEDAR 25 Data Workshop -18). Species most likely occurring with black sea bass were white grunt, black grouper (potential ID issue), grunts, gag, vermilion snapper, and red snapper.

NOTE: Some similarities with the data from MRIP on positive and negative.

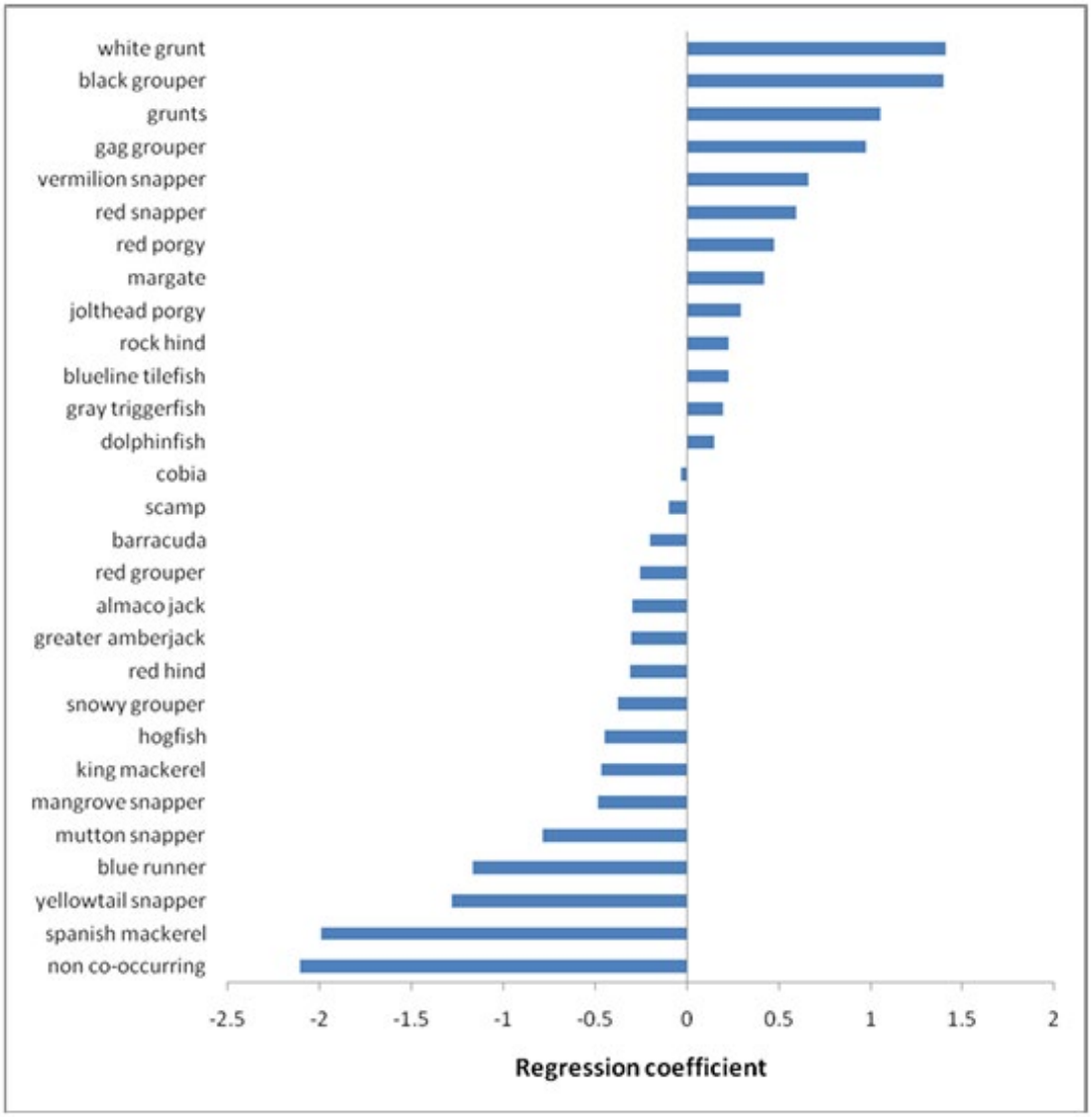

Figure 1. From SEDAR 25 DW 18 report - Regression coefficients estimated through Stephen and MacCall (2004) analyses. Positive coefficients signify species that had positive associations with black sea bass. The magnitude indicates the predictive impact of each species on the index of abundance. The value for "non co-occurring" is the regression intercept and denotes the probability a trip was fishing in the target species' habitat, but did not report any of the listed species. Species included were reported on at least one percent of vertical line trips in the South Atlantic.

Additional analyses of species that were caught on the same trips as black sea bass, based on Marine Recreational Information Program (MRIP) data, are included in Appendix A.

Commercial data by gear and time of year

Table 3. Commercial black sea bass landings by gear, 2018-2022 (NOTE: Information below is different than other datasets 2018 to 2022).

Year	All Other Gear	Pots and Traps	Total
2018	93,175	156,123	249,298
2019	70,449	128,609	199,058
2020	34,290	46,399	80,690
2021	34,953	22,298	57,250
2022	34,208	44,359	78,566

Source: WH_ACL_2014-2022_18Sep2023 File

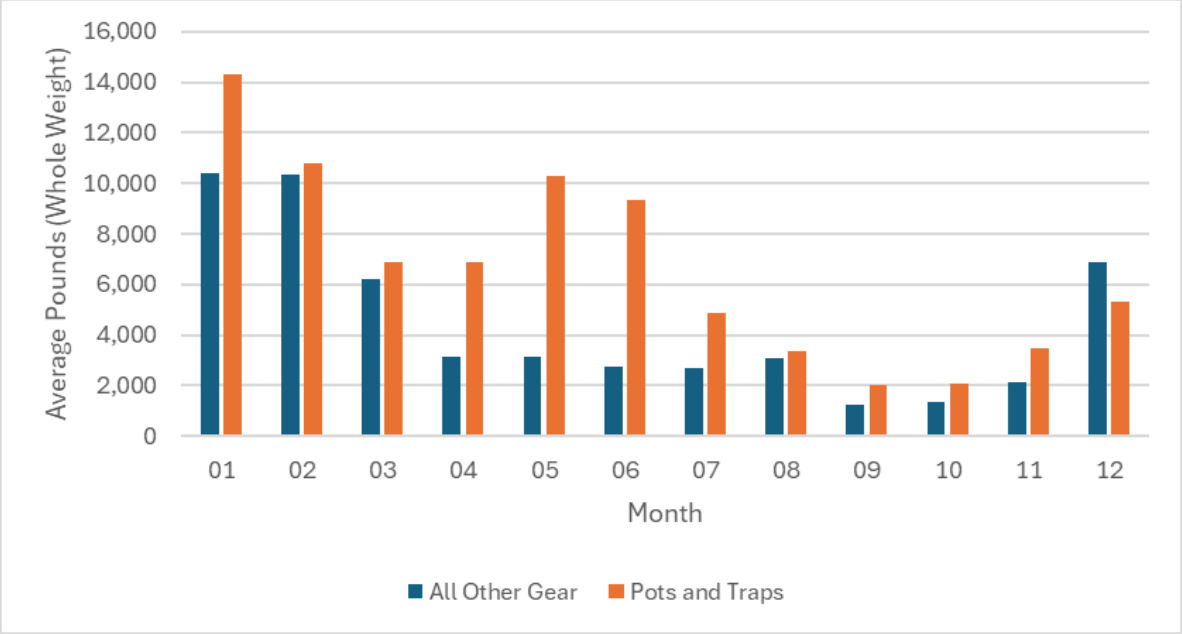

Figure 2. Average commercial landings (lbs ww) by month and gear, 2018-2022.
Source: WH_ACL_2014-2022_18Sep2023 File

Potential Interactions with Red Snapper Evaluated Using Ecopath/Ecosim

These are based on excerpts from a report developed by Gentry et al. 2021 and presented to the Council December 2021 (report and presentation).

Direct impacts that red snapper could have on black sea bass could be due to prey overlap. Black sea bass compete with Age-0 and Age 4+ Red Snapper for over 50% of their prey species. This prey overlap could result in trophic interactions. Based on the trophic impacts analysis through Ecopath, black sea bass were expected to incur a negative impact from red snapper (Figure 3).

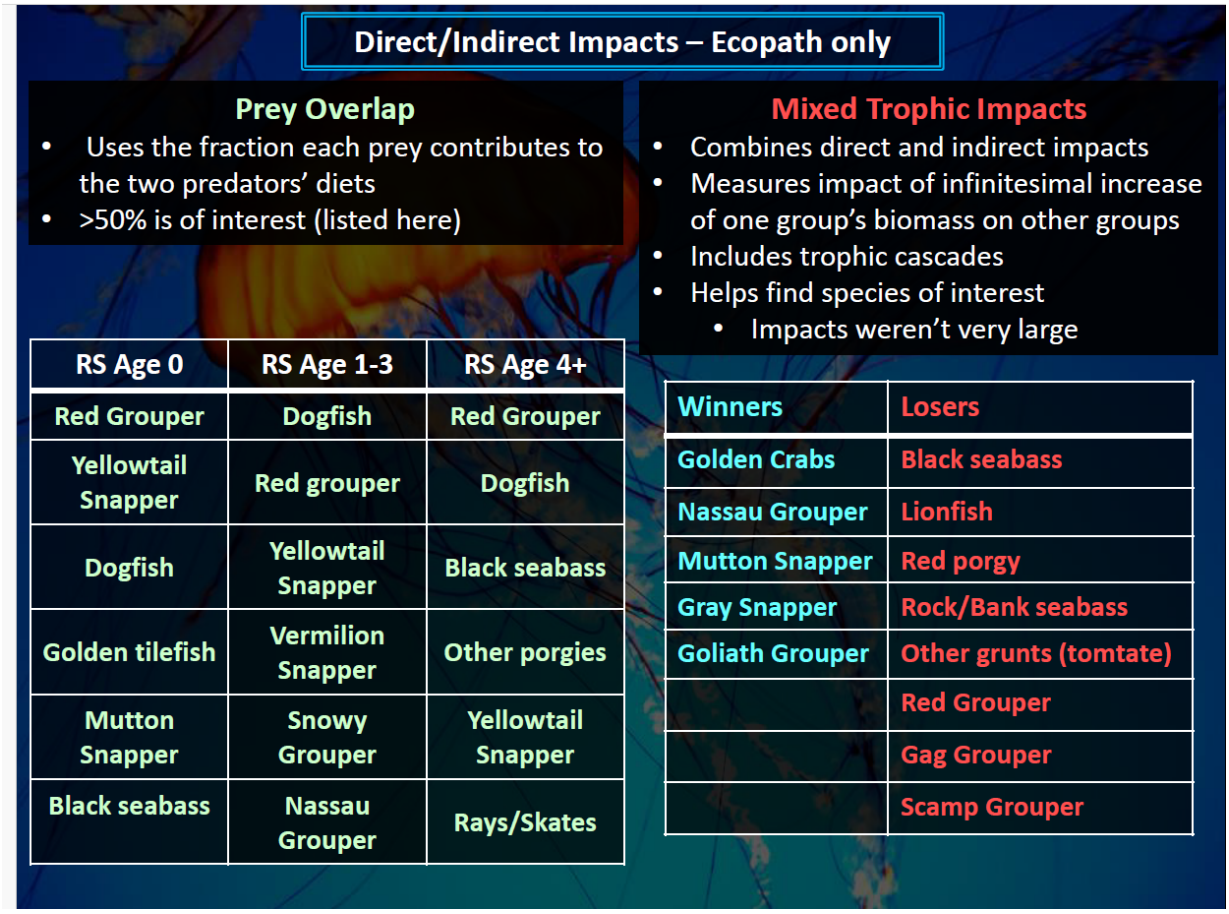

Figure 3. Slide from December 2021 presentation by Gentry et al. on the prey overlap and trophic impacts of red snapper.

The niche overlap only covers the dietary component. Ecosim is able to test different assumptions about the impacts of red snapper. This was done using the projections from SEDAR 73 (2021), which included a mean recruitment and recent high recruitment scenario to project the population to 2044.

Although black sea bass were projected to have a negative impact due to niche overlap with red snapper, the negative impact was only a 3% decrease in biomass. Further testing included driving the black sea bass population to low levels and increase red snapper recruitment, increasing the diet of red snapper to include 25% black sea bass, adjusting the weighted diets based on study area location, and doubling prey vulnerability to red snapper predation. None of these sensitivities indicated a drop in black sea bass biomass more than 3% (Figure 4).

The authors did note that if the assumptions included in the model were inaccurate, particularly recruitment, then the conclusions could be wrong.

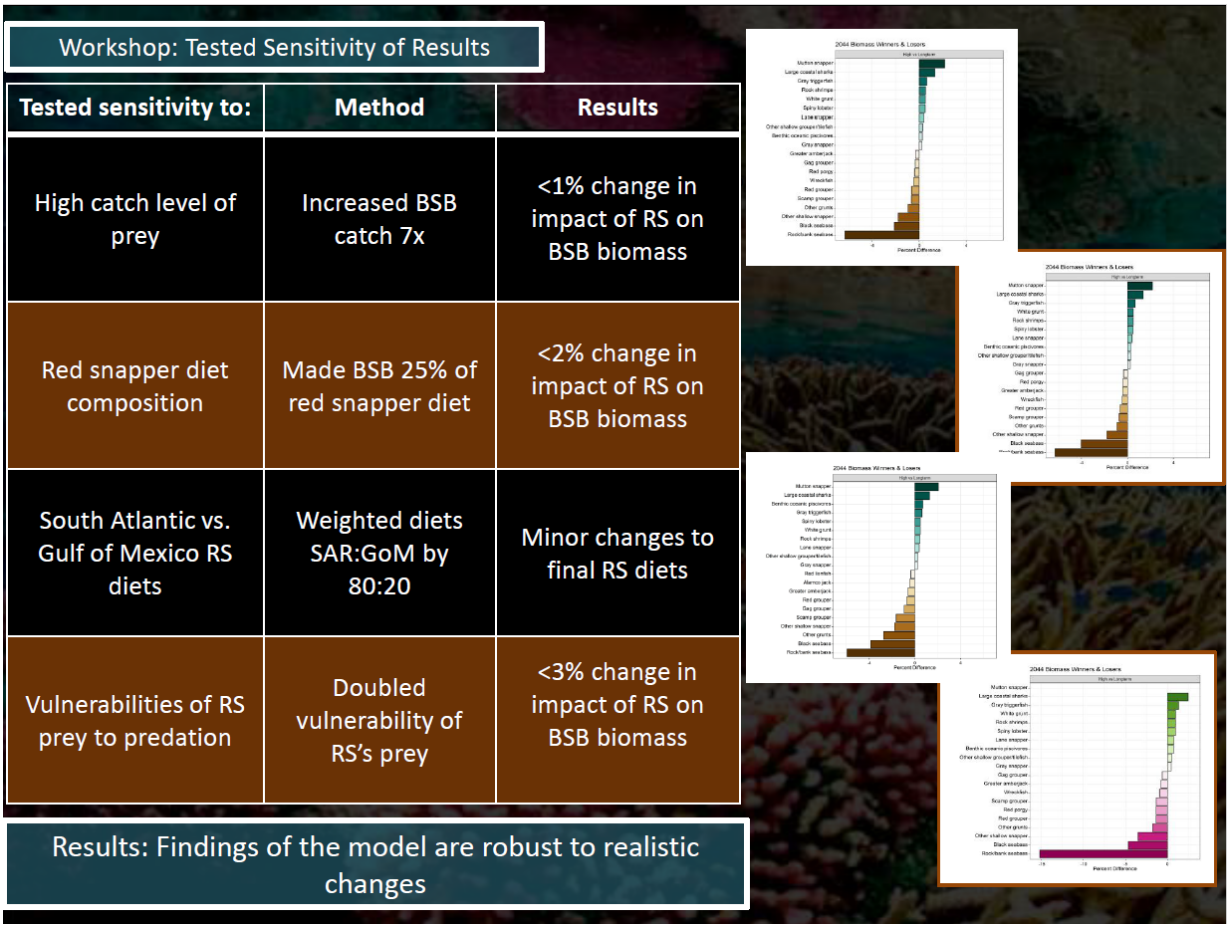

Figure 4. Slide 12 from December 2021 presentation by Gentry et al. on the sensitivities of conclusions (minimal impact of red snapper on black sea bass).

Angler Metrics for Success

The Council requested information on angler metrics for a successful black sea bass fishery. Comments from recreational fishermen that serve on the Snapper Grouper Advisory Panel (AP) are summarized below. Full comments are included in the 2022 Black Sea Bass Fishery Performance Report (FPR) Update and the March 2024 AP Meeting Report.

- The AP noted the tendency and requirement of management to change annual catch limits (ACL) in response to stock assessment. The AP recommended that the Council strive for **more stable management and better catch monitoring to limit large changes in the ACLs as much as possible**. The AP noted that many fisheries, including black sea bass, respond strongly to environmental factors, so population fluctuations may not be primarily driven by fishing (positively or negatively).
- The AP also noted that the current recreational size limit (13 inches) has created difficulties for recreational fishermen. However, while **reducing the minimum size limit could have some support**, the length of the open season should be more highly prioritized. Similarly, **keeping the recreational season open as long as possible** should be prioritized higher than greater retention limits.

- Decreasing the size limit is likely to lead to an increased retention rate and a decreased discard rate. Consider how this adjusts catch levels and can potentially contribute to increased accuracy or precision in data collection efforts.

- The AP also recommended evaluation of the circle hook requirement's efficacy in reducing recreational release mortality for black sea bass and other snapper grouper species.

Phase-In

Through the Comprehensive Acceptable Biological Catch Control Rule Amendment (Snapper Grouper Amendment 45; 2022), the Council may phase-in ABC decreases when a new ABC is less than 80% of the existing ABC. The current ABC for black sea bass is 643,000 lbs ww. The recommended ABC for black sea bass in 2025 is 35,000 lbs ww, which is 5.4% of the current ABC.

If the Council decides to phase-in the ABC change, it must meet requirements shown in Table 4, which vary depending on the timeframe of the phase-in (which cannot exceed 3 years). A phase-in would require a revised projection of future catches that accounts for the ABCs during the phase-in.

Table 4. Annual requirements for phase-in of decreases to acceptable biological catches (ABC) over a 3-year, 2-year, or 1-year schedule as set through the Acceptable Biological Catch Control Rule Amendment (2022).

Year	3-Year Schedule	2-Year Schedule	1-Year Schedule
Year 1	Modified ABC may not exceed the OFL.	Modified ABC may not exceed the OFL.	Modified ABC may not exceed the OFL.
Year 2	Modified ABC may not exceed one-half the difference between the OFL and the new ABC recommendation.	Modified ABC may not exceed one-half the difference between the OFL and the new ABC recommendation.	NA
Year 3	Modified ABC may not exceed the original recommended year 3 ABC (based on the projections and analyses that triggered the phase-in).	NA	NA
Subsequent Years	ABC is based on revised projections that account for the phase-in during years 1-3.	ABC is based on revised projections that account for the phase-in during years 1 and 2.	ABC is based on revised projections that account for the phase-in during year 1.

With ABC recommendations provided only for 2 years (2025 and 2026), ABC beyond 2026 would remain at the 2026 level of 54,000 lbs ww. If phase-in is considered for a 3-year schedule, the Council will need to consider whether the extension of the 2026 ABC qualifies as

an ABC recommendation for 2027. Maximum ABCs for landings that could be considered for the years in which the SSC has provided an ABC recommendation are shown in Table 5.

Table 5. Overfishing limit (OFL) and acceptable biological catch (ABC) landings recommendations for black sea bass and the maximum landed ABC that could be considered under phase-in requirements of the ABC Control Rule.

Year	Recommended Landed OFL (1000 lbs ww)	Recommended Landed ABC (1000 lbs ww)	Phase-In Maximum Landed ABC (1000 lbs ww)
2025	39	35	39
2026	68	54	61
2027	109	-	54* or dependent on revised projection
2028	165	-	dependent on revised projection
2029	211	-	dependent on revised projection

*Only applies if the Council determines the 2026 ABC recommendation is an appropriate level for 2027.

Tentative Amendment Timing

June 2024	**Review decision document and consider approval for scoping**
Summer 2024	Scoping hearings; SSC review of alternate catch level projections
September 2024	Review scoping comments and provide guidance on draft actions and alternatives
December 2024	Analyses and initial actions and alternatives
March 2025	Review modifications to the amendment, select preferred alternatives, and approve for public hearings
Spring 2025	Conduct public hearings
June 2025	Review public comment and approve all actions
September 2025	Approve for formal review
Early to mid 2026	Regulations effective

Snapper Grouper Advisory Panel Comments

The Council's Snapper Grouper AP convened in Charleston, SC on March 26-28, 2024. AP comments and management recommendations are summarized below. Full comments are included in the Meeting Report (included in the Council's June 2024 Briefing Book).

- The AP discussed having low confidence in the data and information used to describe the recreational fishery.
- AP members believe red snapper are impacting the black sea bass stock through predation on juvenile black sea bass and competition for habitat and food sources.
- **The AP recommends aligning the minimum size limits for black sea bass in both sectors.**
    - Notes for 12-inch minimum size limit for both sectors:
        - Could reduce recreational regulatory discards.
        - Could provide some rebuilding benefit by increasing the commercial size limit.
        - With pot fishing occurring in deeper waters, some of those fish do still experience barotrauma.
        - This could allow more females to survive to larger sizes before their transition.
    - Other potential size limit options (aligned for both sectors): 11.5 or 11 inches.
    - Consider how a decreased size limit and increased retention rate could impact catch levels and accuracy or precision in data collection efforts.
- The timing and maximizing the length of the open season is the highest priority for the for-hire component of the recreational sector.
- Requirement of single hook rigs for the recreational sector could reduce the discard rate and affect catch levels.
- Reopening the nearshore pot area.
    - Recreational for-hire has experienced benefit during the closure
    - Some AP members may be interested in a hybrid approach, potentially increasing pot access but not in the same way as before the closure
    - Headboats typically operate from the shoreline to 10 miles to target black sea bass
    - Consideration should be given to how pot locations can be identified and communicated with other fishermen.
- Some AP comments were against any re-allocation between sectors. No members expressed support for re-allocation.
- AP members noted the increase in black sea bass abundance north of Cape Hatteras. They asked whether there are plans to reassess the stock definition and connectivity between the Mid-Atlantic and South Atlantic stocks.

Actions

Required

The following actions are required components of Amendment 56 in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) or Council policy:

1. The Council is required to **reduce catch levels (ABC, annual catch limit [ACL], and optimum yield [OY])** because the SSC has recommended lower ABCs than the current ABC of 643,000 lbs ww. The Magnuson-Stevens Act requires that the Council set its ABC at or below the level recommended by the SSC. The ACL also must be reduced because ACL may not exceed ABC. Finally, OY is based on maximum sustainable yield,

which has been re-estimated through SEDAR 76 with the incorporation of more recent data, including the transition of recreational catch estimates from the Marine Recreational Information Program (MRIP) Coastal Household Telephone Survey (CHTS) to the mail-base Fishing Effort Survey (FES).

2. .*The current SDC are MSY proxies based on 30% spawning potential ratio (SPR). The SSC has recommended reference points based on 40% SPR, and NMFS has determined that these reference points represent the best scientific information available (BSIA). To adopt the recommended SDC, the Council would need to amend the FMP. The Council could consider specific alternative SDC, or an alternative similar to that in place for red grouper (Snapper Grouper Amendment 24), which specifies that SDC are recommended by the most recent SEDAR/SSC.*

   If the Council adopts new SDC, revising the MSY and F_{MSY} proxies to be based on 40% SPR, then black sea bass would be overfished. Therefore, the Council would be required to **develop a rebuilding plan for black sea bass.** Projected rebuilding of this stock is highly dependent on future recruitment. If recruitment returns to a level close to the higher long-term average, the stock is projected to rebuild within 10 years (probability of being rebuilt exceeds 50% in 2026). If recruitment remains near the lower recent average, the stock is not projected to rebuild to the biomass at maximum sustainable yield (B_{MSY}) as currently estimated. The Magnuson-Stevens Act requires that if a stock is expected to rebuild (i.e. the stock's biomass is more likely than not to reach B_{MSY}) within 10 years in the absence of fishing mortality, the rebuilding timeframe must be 10 years or less.

   - Projections of black sea bass rebuilding are highly dependent on assumptions about future recruitment. If higher, long-term average recruitment is assumed, the probability of the stock being rebuilt exceeds 50% in 2026. However, the stock is projected to never rebuild if lower, recent average recruitment persists.

   - The SSC provided recommendations regarding the use of short-term and long-term recruitment trends in forecasts (Catch Level Projections Workgroup Final Report, 2022), including:

     - Recent conditions likely reflect near-term dynamics. Therefore, short-term forecasts should be limited to 5 years from the terminal year of an assessment, including interim years before management has taken effect. These short-term forecasts should use recent mean recruitment.

     - Long-term forecasts (10 years and longer) are recommended to use average long-term recruitment, under the expectation that 10 years would be long enough for the ecosystem to shift away from temporary conditions and tend back toward a long-term average value.

3. Per the Council's Allocation Review Trigger Policy, with the completion of a new stock assessment and revised catch level recommendations, the Council will **review sector allocation percentages** for black sea bass as part of this amendment process. Sector

allocation percentages will be applied to the total ACL to develop ACLs for the commercial and recreational sectors.

Other Actions

The following actions are not required for Amendment 56, but may be considered based on previous Council and AP discussions:

1. Discard reducing measures.
    - Black sea bass is a highly released species. While it has relatively high survival rates compared to other snapper grouper species, the large number of releases results in a significant number of fish that are estimated to die due to being caught and released.
    - Recent catch estimates indicate approximately 1.5 times more fish die from being caught and released than being caught and retained (SEDAR 76).
2. Revise size limits.
    - The recreational minimum size limit is 13 inches total length. The commercial minimum size limit is 11 inches total length.
    - Comments from the 2022 fishery performance report (FPR) noted catches of many black sea bass that were just under the legal recreational size limit.
    - There was some support for reducing the recreational minimum size limit, but the FPR notes this should not be done at the expense of the season length. Keeping the recreational season open as long as possible was noted as a higher priority than any form of management to increase retention.
    - The Council expressed some interest in consideration of a slot limit. This is being included in the additional projections being developed by the SEFSC.
        i. The Mid-Atlantic Fishery Management Council (MAFMC) previously considered a slot limit for black sea bass. Their discussion of potential impacts of this type of measure is included in Framework Adjustment 14 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (Section 7.1.3.1; p. 89).
        ii. The Recreation Demand Model (RDM), a tool developed by the Northeast Fisheries Science Center, has been used to predict the effects of recreational measures on angler satisfaction, fishing effort, and recreational harvest and discards of summer flounder, scup, and black sea bass. The RDM was presented to the MAFMC in December 2023, and a video of this presentation is available HERE.
3. Re-opening nearshore areas to on-demand black sea bass pots.
    - Nearshore areas were seasonally closed to roped black sea bass pots to reduce the probability of whale entanglements.
    - With the development and successful experimental use of on-demand pots that reduce the probability of such encounters, some comments have supported re-opening these areas to on-demand pots.
    - Re-opening and associated regulations would need to be considered with the greater context of the current status of the black sea bass stock.
4. Consider allocating the commercial ACL by gear (pots and hook-and-line).
    - Consideration of this change was noted in the 2022 FPR.

Council Action:

Provide direction to staff on actions that should initially be considered in Amendment 56.
Consider approval for scoping.

Appendix A. Species Caught with Black Sea Bass Based on MRIP

Data

All data were pulled from MRIP publicly available dataset.

Data Treatment

Data were filtered to years between 2019 and 2023. Monroe County was included since management for some species continues into the Florida Keys. Effort north of Cape Hatteras where Scup and Black Sea Bass are managed by MAFMC were included.

Trips were aggregated to represent vessel trips by the party code. Party code identifies the first individual of a party. This was done to include all species on a trip. If a Black Sea Bass was caught by a single angler on the trip, then Black Sea Bass could be caught by all anglers on the trip. Additionally, some species are limited to a single individual for a vessel (e.g. Snowy Grouper). There are two issues with using party code as the identified for a trip. It is difficult to determine the number of people in a party for shore-based trips and sampling of a party can occur over two different sample weights. Although these are important issues, it was decided that using the sample weight to describe co-occurring species would better than unweighted values because sample weight can vary substantially based on mode, sample site, and time of sample.

The first filter in analyzing co-occurring species was developing a minimum number of observations. Species with less than 50 observations were removed. The cutoff was based on trying to get 10 samples in five areas (NC, SC, GA, North Florida (Brevard County and counties north), and South Florida (Indian River County through Monroe county)). This resulted in removing several species managed by the SAFMC including Snowy Grouper, Tilefish, Knobbed Porgy, Cubera Snapper, Rock Hind, Silk Snapper, Lesser Amberjack, Blackfin Snapper, Margate, Red Hind, Coney, Speckled Hind, Longspine Porgy, Queen Snapper, Misty Grouper, Nassau Grouper, Warsaw Grouper, Cottonwick, Saucereye Porgy, Wreckfish, and Yellowmouth Grouper (in descending order of trips observed). Potentially federally managed species included in aggregated taxa or genus based on identification at the dock were not added to the list of removed species.

Trips reported from the ocean less than 10 miles and greater than 10 miles were excluded from the analysis. These trips were sampled in Monroe County and are likely trips that fished in the Gulf of Mexico, where state jurisdiction extends to 10 miles.

Results for Shore, Charter, and Private Recreational Trips from 2019 to 2023

406 species or taxa were identified being caught in the SA region.

The top five species in number of vessel trips were Kingfish Genus (aka. Sea mullet), Bluefish, Atlantic Croaker, Pinfish, and Red Drum (Table A.1). Black Sea Bass ranked 19th in total trips and fourth for species managed by the SAFMC behind Gray Snapper, Spanish Mackerel, and Blue Runner. Black Sea Bass vessels trips ranked third in number of trips in federal waters (ocean > 3 miles); however, the overall number of trips in federal waters was 19% of the total vessels trips catching Black Sea Bass.

Table A.1. Estimated number of vessel trips (identified through prt_code in MRIP) summed from 2019 to 2023 for the South Atlantic region (North Carolina through Key West). **Bolded species are managed by the SAFMC.**

Rank	Inland	Ocean <=3 miles	Ocean > 3 miles	Total Trips
1	Spotted Seatrout	Kingfish Genus	**Red Snapper**	Kingfish Genus
2	Red Drum	Bluefish	**Dolphin**	Bluefish
3	Hardhead Catfish	Atlantic Croaker	**Black Sea Bass**	Atlantic Croaker
4	**Gray Snapper**	Florida Pompano	**King Mackerel**	Pinfish
5	Pinfish	**Spanish Mackerel**	Little Tunny	Red Drum

222 species or taxa were identified with Black Sea Bass reported on the trip. When the trips were filtered based on number of observations (>50 intercepts), 168 species were included in the comparison.

Due to the high proportion of trips that appear to be in state waters and inland, species co-occurring with Black Sea Bass were separated by area (inland, ocean <=3 miles, ocean >3 miles, and total) to better describe species caught on the same trip. The most common species caught with Black Sea Bass was Pinfish based on number of trips and the remaining top five species were commonly caught with Black Sea Bass in inland waters or in the ocean less than three miles (Table A.2). Trips occurring greater than three miles did not include the same species in the top five as the other areas. These ocean trips that caught Black Sea Bass also caught Red Snapper, Gray Triggerfish, Vermilion Snapper, Tomtate, and Spottail Pinfish.

Table A.2. Species with the most vessel trips also reporting catching Black Sea Bass in the South Atlantic region based on MRIP data, 2019 to 2023. **Bolded species are managed by the SAFMC.**

Rank	Inland	Ocean <=3 miles	Ocean > 3 miles	Total Trips
1	Pinfish	Pinfish	**Red Snapper**	Pinfish
2	Atlantic Croaker	Atlantic Croaker	**Gray Triggerfish**	Atlantic Croaker
3	Pigfish	Oyster Toadfish	**Vermilion Snapper**	Oyster Toadfish
4	Oyster Toadfish	Bluefish	**Tomtate**	Pigfish
5	Kingfish Genus	Kingfish Genus	Spottail Pinfish	Bluefish

Another way to look at the association is percent of trips reported catching a species compared with the number of trips that also caught Black Sea Bass. Trips reporting Scup (87%) and Bank Sea Bass (75%) had the highest percent of trips also catching Black Sea Bass (Table A.3). These two species did not show up in the inland or either ocean area because the sample size was less than 50 observed trips in an individual area. Summed across areas, both species had greater

than 50 observed trips. The next highest percentage occurred with Spottail Pinfish (74%) in the ocean greater than three miles.

Table A.3. Species with the highest percentage of trips also catching Black Sea Bass on a trip based on MRIP estimates, 2019 to 2023. Bolded species are managed by SAFMC.

Rank	Inland	Ocean <=3 Miles	Ocean > 3 Miles	Total Trips
1	Cobia	**Vermilion Snapper**	Spottail Pinfish	**Scup**
2	Weakfish	**Gag**	Inshore Lizardfish	Bank Sea Bass
3	Pigfish	Oyster Toadfish	Oyster Toadfish	Gulf Flounder
4	**Gag**	**Almaco Jack**	**Whitebone Porgy**	**Whitebone Porgy**
5	Oyster Toadfish	Atlantic Bonito	Red Drum	**Tomtate**
6	Atlantic Cutlassfish	Inshore Lizardfish	Sand Perch	Rock Sea Bass
7	Lizardfish Genus	Spottail Pinfish	Lefteye Flounder Genus	**Red Snapper**
8	Inshore Lizardfish	Cobia	**Gag**	**Vermilion Snapper**
9	Searobin Genus	Pigfish	Sheepshead	**Gag**
10	Summer Flounder	Hammerhead Shark Genus	Unidentified (Sharks)	**Greater Amberjack**
11	Spot	**White Grunt**	Pigfish	**Banded Rudderfish**
12	Northern Puffer	Blacktip Shark	Lizardfish Genus	**Gray Triggerfish**
13	Unidentified Eel	**Gray Triggerfish**	Atlantic Sharpnose Shark	Spottail Pinfish
14	**Atlantic Spadefish**	Lizardfish Genus	**Tomtate**	**Scamp**
15	Toadfish Family	Sheepshead	**Gray Triggerfish**	**Red Porgy**

The highest percent of trips catching a species along with Black Sea Bass tended to occur in the ocean greater than three miles (Table A.4), where the top 15 species had a range of 32% of the trips that caught Gray Triggerfish also caught Black Sea Bass up to 74% of the trips that caught Spottail Pinfish also caught Black Sea Bass. Trips in the ocean had the lowest percent with 6% of the trips that caught Sheepshead also caught Black Sea Bass up to 25% of the trips that caught Vermilion Snapper also reporting Black Sea Bass. Inland trips top 15 ranged from 9 to 40%.

Table A.4. Number of species separated by percentage of trips also including Black Sea Bass in the South Atlantic region by MRIP areas, 2019 to 2023.

% of Trips also including Black Sea Bass	Number of Species in Inland	Number of Species in Ocean <=3 miles	Number of Species in Ocean > 3 miles	Total Number of Species
> 50%	0	0	4	2
> 40%	1	0	6	2
> 30%	3	0	16	3
> 20%	3	3	31	13
> 10%	14	8	38	30
> 0%	81	81	58	154

There were several species (with greater than 50 intercepts) that had no trips with Black Sea Bass also reported (Table A.5). Some of these were freshwater species such as Largemouth Bass and White Perch, species common in south Florida such as Yellowtail Snapper or Mutton Snapper (very low percent of trips), or pelagic species such as Bigeye Tuna or White Marlin. Although no overlap was reported in one area, that did not always remain constant. For example, Barracuda and Black Sea Bass were not reported on the same trip in inland waters but were reported on the same trip in the ocean (<= 3 miles <1% trips reporting Barracuda and > 3 miles 9% reporting Barracuda).

Table A.5. Species with the lowest percentage of trips also catching Black Sea Bass on a trip based on MRIP estimates, 2019 to 2023. Cells highlighted in blue indicate species with some trips with Black Sea Bass (typically <1% of trips) and cells with no color had no trips with Black Sea Bass. Bolded species are species managed by the SAFMC.

Rank	Inland	Ocean <=3 miles	Ocean > 3 miles	Total Trips
1	Yellow Jack	Yellow Jack	Bigeye Tuna	Bigeye Tuna
2	Snook Genus	Snook Genus	Blackbelly Rosefish	Blackbelly Rosefish
3	Largemouth Bass	Mojarra Family	White Marlin	White Marlin
4	White Perch	Irish Pompano	Blue Marlin	Yellow Jack
5	Irish Pompano	Needlefish Family	Sailfish	Snook Genus
6	Mojarra Family	Striped Mullet	**Yellowtail Snapper**	Cero
7	**Yellowtail Snapper**	Cero	**Dolphin**	Ballyhoo
8	Bonefish	Ballyhoo	Blackfin Tuna	Largemouth Bass
9	**Blue Runner**	Scaled Sardine	Wahoo	White Perch
10	Bluestriped Grunt	**Jolthead Porgy**	Jack Family	Schoolmaster
11	Great Barracuda	Sailfish	Yellowfin Tuna	Bermuda Chub
12	Channel Catfish	Blackfin Tuna	Skipjack Tuna	Parrotfish Family
13	**Mutton Snapper**	**Wahoo**	**Mutton Snapper**	Common Snook
14	Common Snook	Remora Family	Grouper Genus (Epinephelus)	Scaled Sardine
15	Mullet Family	**Dolphin**	**Graysby**	Queen Triggerfish

Summary

Finding an associated cluster of species based on this dataset will be difficult. Fishermen seem to change the species they are targeting on a trip. Further investigation in area specific species grouping may be helpful but more time is needed to complete these analyses.

Appendix B. Summary of Regulations

Species	Black Sea Bass
OFL	703,000 lbs ww (2021+)
ABC	643,000 lbs ww (2021+) (AF 2)
Total ACL	643,000 lbs ww (2021+) (AF 2)
Commercial ACL	276,490 lbs ww (2021+) (AF 2)
Recreational ACL	366,510 lbs ww (2021-2022+) (AF 2)
Commercial Allocation	43.00%
Rec Allocation	57.00%
Commercial AM (Amendment Language)	If commercial landings, as estimated by the SRD, reach or are projected to reach the quota specified in §622.190(a)(5), the AA will file a notification with the Office of the Federal Register to close the commercial sector for the remainder of the fishing year.
Recreational AM (Amendment Language)	The recreational ACL for black sea bass is 848,455 lb (384,853 kg), gutted weight, 1,001,177 lb (454,126 kg), round weight for the 2018-2019 fishing year; 367,119 lb (166,522 kg), gutted weight, 433,200 lb (196,496 kg), round weight for the 2019-2020 fishing year; 323,161 lb (146,583 kg), gutted weight, 381,330 lb (172,968 kg), round weight, for the 2020-2021 fishing year; and 310,602 lb (140,887 kg), gutted weight, 366,510 lb (166,246 kg), round weight, for the 2021-2022 and subsequent fishing years. NMFS will project the length of the recreational fishing season based on when NMFS projects the recreational ACL specified in this paragraph is expected to be met and announce the recreational fishing season end date in the Federal Register prior to the start of the recreational fishing year on April 1. On and after the effective date of the recreational closure notification, the bag and possession limit for black sea bass in or from the South Atlantic EEZ is zero. This bag and possession limit applies in the South Atlantic on board a vessel for which a valid Federal charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, without regard to where such species were harvested, i.e. in state or Federal waters.
Commercial In-season Closure?	Yes
Commercial Payback?	Yes
Rec In-season Closure?	No- NMFS will announce rec season each year (Reg 14). Rec season for 2015 is Apr 1- Mar 31 (all year)
Rec Payback?	No (removed in Reg 14)
Fishing year	Jan 1-Dec 31 comm Apr 1- Mar 31 rec (Reg 14)
Commercial Management Measures	Trip limit 1,000 lbs gw (1,180 lbs ww); 11" TL. (Am18A) H&L trip limit 300 lbs gw Jan -Apr (Reg 14 effective 12/8/14) Pot closure Nov 1- Apr 30 (Reg 16)
Recreational Management Measures	13" TL (Am 18A); 7-fish bag limit (Reg Am 25) Sale of recreationally caught fish prohibited.

Seasonal closures	Pot closure Nov 1- Apr 30 (Reg 16)
Spawning season	Peak spawning March-May offshore with minor spawning Sept-Nov
Size at first spawning	Black sea bass change sex from female to male. The minimum size of maturity for females 3.6 in SL. All females are mature by 7.1 in SL.