



**Mid-Atlantic Fishery Management Council**  
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## MEMORANDUM

**Date:** August 3, 2021  
**To:** Council and Board  
**From:** Julia Beaty, staff  
**Subject:** Black sea bass 2022-2023 specifications

On Monday, August 9, the Council and Board will consider black sea bass specifications for 2022-2023 after reviewing the recommendations of the SSC, Monitoring Committee, and Advisory Panel. Measures to be considered include 2022-2023 commercial and recreational catch and landings limits, as well as any changes to the commercial management measures desired for 2022. Materials listed below are provided for the Council and Board's consideration of this agenda item.

Please note that one document is behind a separate tab.

- 1) Monitoring Committee meeting summary from July 27, 2021
- 2) Advisory Panel meeting summary from July 29, 2021
- 3) July 2021 Scientific and Statistical Committee meeting report (*behind Tab 14*)
- 4) Staff memo on 2022-2023 black sea bass specifications dated July 19, 2021
- 5) Black sea bass management track assessment for 2021
- 6) June 2021 Advisory Panel Fishery Performance Report and associated additional AP comments received through July 6, 2021
- 7) 2021 Black Sea Bass Fishery Information Document



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee  
Webinar Meeting Summary  
July 27, 2021**

**Monitoring Committee Attendees:** Julia Beaty (MAFMC), Peter Clarke (NJ F&W), Dustin Colson Leaning (ASMFC), Karson Coutré (MAFMC), Kiley Dancy (MAFMC), Lorena de la Garza (NC DMF), Steve Doctor (MD DNR), Sandra Dumais (NY DEC), Alexa Galvan (VMRC), Emily Keiley (GARFO), Savannah Lewis (ASMFC), Mike Schmidtke (SAFMC), Mark Terceiro (NEFSC), Corinne Truesdale (RI DEM), Sam Truesdell (MA DMF), Greg Wojcik (CT DEP), Rich Wong (DNREC)

**Additional Attendees:** Bonnie Brady (Long Island Commercial Fishing Association; AP member), Joe Cimino (Council and Board member), Kiersten Curti (NEFSC), Greg DiDomenico (Lund's Fisheries; AP member), Tony DiLernia (Council member), James Fletcher (United National Fisherman's Association; AP member), John Foster (NMFS), Jeff Kaelin (Lund's Fisheries), June Lewis (AP member), David Stormer (Council member), Mike Waine (American Sportfishing Association; AP member)

The Summer Flounder, Scup, and Black Sea Bass Monitoring Committee (MC) met via webinar on Monday July 27, 2021 to discuss several topics. The MC reviewed management track assessment information as well as recent fishery performance and management measure recommendations from the Advisory Panel, the Scientific and Statistical Committee (SSC), and Council staff. The MC recommended 2022-2023 commercial and recreational Annual Catch Limits (ACLs), Annual Catch Targets (ACTs), commercial quotas, and recreational harvest limits (RHLs) for summer flounder, scup, and black sea bass. In addition, they reviewed commercial management measures for all three species, and the February recreational black sea bass opening, to consider whether changes were needed for 2022.

Briefing materials considered by the Monitoring Committee are available at:  
<https://www.mafmc.org/council-events/2021/sfsbsb-mc-july27>.

### **2020 Recreational Harvest Estimates**

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John Foster (NMFS Office of Science and Technology) presented on the methods used to develop 2020 Marine Recreational Information Program (MRIP) estimates in the context of missing shoreside intercept and head boat sampling data due to COVID-19.

As described in the staff memos, the COVID-19 pandemic disrupted the Access Point Angler Intercept Survey (APAIS) in 2020. All New England and Mid-Atlantic states suspended APAIS sampling starting in late March or April 2020, and resumed sampling between May and August 2020, depending on the state. In addition, head boat sampling was suspended in all states throughout the entirety of 2020. NMFS used imputation methods to fill gaps in 2020 catch data with data collected in 2018 and 2019. These proxy data match the time, place, and fishing mode combinations that would have been sampled had the APAIS continued uninterrupted. Proxy data were combined with observed data and 2020 fishing effort survey data (which was not impacted by COVID-19) to produce 2020 catch estimates using the standard estimation methodology.

During the presentation it was noted that differences in the timing of when surveys resumed by state resulted in differences in the effects of imputation by state. For example, there was a much bigger effect of imputation on the data for Connecticut, which was the last state to resume sampling on August 1, compared to the minimal effects of imputation in Massachusetts. It is also important to note that the imputation methods were applied to *catch rate* data (catch per unit effort), not to estimates of total catch, which are derived after incorporating effort data. Some notable changes in wave and state estimates for 2020 appear to be driven primarily by changes in effort (for which estimation methods continued as usual in 2020). Thus, a higher percent of imputed catch rate data used does not necessarily imply a large difference in the absolute estimates of catch with and without use of imputed data.

NMFS has indicated that when complete 2021 recreational data become available in 2022, they will evaluate the effects of including 2021 data (for example, alongside 2019 data and instead of 2018 data) in the imputation. One MC member asked about the timing of this evaluation and whether it would begin in 2021 given that 2021 data for time periods missing from 2020 should soon be available. Mr. Foster responded that they will likely start this evaluation in fall 2021, once complete wave 4 estimates are available. However, they are unlikely to make conclusions about 2020 estimate revisions by the end of this year, and this will more likely occur in 2022.

The group also discussed the apparent increase in the proportion of harvest (in numbers of fish) from federal waters for all three species in 2020. Mr. Foster confirmed that area fished information for private and shore mode comes from APAIS. Any shift in the percent from federal waters compared to 2018-2019 would be driven by available 2020 observed data, as opposed to imputed data, which matches 2018 and 2019. More investigation would be needed to confirm this, but it is expected that this trend may be coming from wave 5, which had complete 2020 data in all states and saw an increase in effort.

One MC member noted the apparent increase in New Jersey Wave 4 summer flounder harvest and asked about possible explanations. The contribution of imputed catch rate data for that wave 4 estimates is about 9%, so the imputation did not appear to make a large difference. The difference appears to come from the effort estimates, with New Jersey effort estimates increasing notably in 2020.

The MC discussed that while dead discard estimates in numbers of fish can be derived from the 2020 MRIP data (by applying the assumed discard mortality rate to the MRIP B2s or released alive fish), estimates of dead discards in weight are not available for 2020. The NEFSC uses additional data streams to inform length frequency distributions for discarded fish, along with length-weight equations, to estimate the weight of discarded fish. Some of the data typically used are not yet available for 2020, and estimation in weight has not been attempted at this time.

### **Summer Flounder 2022-2023 Specifications**

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**The MC agreed with the staff recommendations for 2022-2023 ACLs, ACTs, and landings limits** based on the SSC's Acceptable Biological Catch (ABC) recommendations for both the annually varying and constant approach (Table 1). **The MC preferred the constant approach over the varying approach** due to increased simplicity and stability over the two years. However, the MC acknowledged the potential for 2023 limits to be modified based on any changes via the ongoing commercial/recreational allocation amendment.

The recommended ACLs under both the varying and constant approaches are based on the MC's typical dead discard projections methodology, where total expected discards are estimated from the ABC projections received from the Northeast Fisheries Science Center (NEFSC) and apportioned to the commercial and recreational fisheries based on a 3-year moving average of dead discards by sector. In this case, 2017-2019 dead discard data indicate that 41% of dead discards came from the commercial sector and 59% from the recreational sector. This was the most recent 3-year period available since 2020 dead discard estimates in weight are not currently available. The MC discussed that different dead discard projection methodologies are used for each of the three species in this FMP, due to differing allocation structures and differing "fleets" modeled in the stock assessments (i.e., commercial and recreational landings and discards are modeled separately for summer flounder and scup, but not black sea bass). The group believed that it would be worth re-evaluating these methods in the future, but did not recommend changes at this time for summer flounder as the current methods have estimated future discards fairly well. In addition, the MC believed any such re-evaluation should occur after final action on the Commercial/Recreational Allocation Amendment, which could require changes to the process of estimating discards in the event of a switch to a catch-based allocation for summer flounder.

**The MC recommendations also include no deductions from the commercial or recreational ACLs to ACTs to account for management uncertainty.** The MC agreed with the rationale in the staff memo, including that the commercial fishery is well controlled with in-season closure authority and commercial discard overages observed in 2017-2018 are less of a concern under higher quotas since mid-2019. For the recreational fishery, recreational Accountability Measures (AMs) are evaluated on a 3-year moving average comparison of dead recreational catch to the average recreational ACL, and were not triggered for application in 2021. It is unclear whether an estimated 31% RHL overage in 2020 would contribute to an AM being triggered for 2022, as 2020 recreational dead discard estimates in weight are not currently available. The MC noted that for 2022 recreational measures, both an expected increase in the RHL and preliminary 2021 estimates will be taken into account to determine how 2022 measures may need to be modified. The MC also acknowledged the importance of both the ongoing Recreational Reform Initiative and the Commercial/Recreational Allocation Amendment to future management of the recreational fishery including some aspects of recreational management uncertainty.

The resulting commercial quotas and RHLs under the MC recommendations are shown in Table 1. Under the annually varying limits, the commercial quota and RHL would increase by approximately 27% between 2021 and 2022, and then would decline by about 4.5% between 2022 and 2023. Under the constant limits, the commercial quota would increase by about 24% between 2021 and 2022 and remain at the same level for 2023.

**The MC agreed with the staff recommendation that no changes be made to the commercial minimum fish size (14-inch total length), commercial gear requirements, and exemption programs for 2022. However, the MC continues to support further analysis and future consideration of modifications for several issues related to the mesh size regulations and exemptions.** These issues have been discussed over the past several years, but additional evaluation has been identified as a lower priority by the Council and Board given other ongoing management actions and priorities. The MC was supportive of potentially hiring an external contractor to facilitate additional analysis of these measures due to current constraints on Council and Commission staff time.

Current regulations specify a minimum mesh size of 5.5" diamond or 6.0" square mesh throughout

the net. As described in the staff memo, the MC has previously identified some concerns with the 6.0" square mesh option for the commercial trawl fishery given that based on a recent study, it appears that this mesh releases less than 50% of fish at or below the minimum size, and its selectivity appears more similar to a 5.0" diamond mesh. The MC has previously recommended that further analysis and industry input be conducted before changes are proposed.

The MC previously identified concerns with the recent increase in the percent of observed trips using the Small Mesh Exemption Program and discarding more than 10% of their summer flounder catch. However, the group believed that recent increases in the commercial quota for 2019-2021 should reduce the rates of discarding in general, including under this exemption. The rates of discarding under this exemption appear to have decreased somewhat during the relevant 2019-2020 period; however, due to COVID-19 restrictions, observer data are only available through mid-March 2020 and thus cannot necessarily provide an apples to apples comparison to previous years.

The MC considered an Advisory Panel member's request to modify the Small Mesh Exemption Program. Specifically, this advisor requested that the small mesh exemption line be completely removed and that vessels be allowed to possess up to 1,000 pounds of summer flounder with small mesh no matter where they are fishing. Additionally, for directed summer flounder trips with possession limits over 1,000 pounds, a 5" minimum mesh size should be used. The MC noted that this modification would essentially remove the small mesh exemption program as well as require modifications to the seasonal possession limits triggering the minimum mesh size requirement (currently 200 pounds from November through April and 100 pounds May through October). Some MC members raised concerns with this proposal, indicating that raising the possession limit triggering the minimum mesh size to 1,000 pounds could cause substantial changes in fishery dynamics, potentially increased difficulty in controlling fishery landings, and would likely conflict with some state possession limits. However, the MC was supportive of further evaluation of this exemption program in general and the placement of the line in particular, and agreed with the advisor's statement that fishery distribution and dynamics have changed since the exemption program was first implemented. **The MC recommends including this exemption program in the list of commercial measures to be further analyzed for future consideration.**

The MC also discussed the flynet exemption issues raised in the staff memo. In 2020, a comment from a commercial fisherman asserted that the flynet exemption is used more commonly in states other than North Carolina with "high rise nets." This individual also requested an expansion of the regulatory definition of flynet to include four-seam nets in addition to the currently specified two-seam nets. Last year, the MC noted that there is a need to better understand the use and configuration of flynet and high rise trawl nets as they relate to this exemption. Because the use of two-seam nets is said to be rare in the Mid-Atlantic and Southern New England winter offshore trawl fishery, this may indicate a possible compliance and enforcement issue if vessels that don't meet the regulatory definition (which specifies a two-seam net) believe they are fishing under the flynet exemption. The MC previously recommended additional evaluation of this issue including seeking input from gear experts, industry, and enforcement. Similar to other commercial measures, staff resources have not been available to address this in 2021. **The MC recommends no changes to the flynet exemption for 2022 but remains supportive of further evaluation of these issues for potential future changes.**

**Table 1:** Monitoring Committee recommendations for 2022-2023 catch and landings limits for summer flounder, under both annually varying and constant ABC approaches.

Measure	Current		Varying ABCs				Constant ABCs (MC Recommended)				Basis for 2022-2023 Measures
	2021		2022		2023		2022		2023		
	mil lb	mt	mil lb	mt	mil lb	mt	mil lb	mt	mil lb	mt	
<b>OFL</b>	31.67	14,367	36.28	16,458	34.74	15,759	36.28	16,458	34.98	15,865	Assessment projections/SSC recommendations
<b>ABC</b>	27.11	12,297	33.96	15,403	32.27	14,639	33.12	15,021	33.12	15,021	SSC recommendations
<b>ABC Landings Portion</b>	20.81	9,439	26.48	12,009	25.29	11,470	25.89	11,743	25.89	11,743	ABC projections for varying and averaged 2022-2023 ABC approaches; average approach includes averaged 2022-2023 expected landings
<b>ABC Dead Discards Portion</b>	6.30	2,858	7.48	3,394	6.99	3,169	7.23	3,279	7.23	3,279	ABC projections for varying and averaged 2022-2023 ABC approaches; average approach includes averaged 2022-2023 expected dead discards
<b>Expected Commercial Dead Discards</b>	2.14	972	3.05	1,383	2.85	1,292	2.95	1,336	2.95	1,336	41% of ABC dead discards portion, based on 2017-2019 average % dead discards by sector
<b>Expected Recreational Dead Discards</b>	4.16	1,886	4.43	2,011	4.14	1,877	4.28	1,942	4.28	1,942	59% of ABC dead discards portion, based on 2017-2019 average % dead discards by sector
<b>Commercial ACL</b>	14.63	6,635	18.94	8,589	18.02	8,174	18.48	8,382	18.48	8,382	60% of ABC landings portion (FMP allocation) + expected commercial dead discards
<b>Commercial ACT</b>	14.63	6,635	18.94	8,589	18.02	8,174	18.48	8,382	18.48	8,382	MC recommendation: Maintain no deduction from ACL for management uncertainty
<b>Commercial Quota</b>	12.49	5,663	15.89	7,205	15.17	6,882	15.53	7,046	15.53	7,046	Commercial ACT, minus expected commercial dead discards
<b>Recreational ACL</b>	12.48	5,662	15.02	6,814	14.25	6,465	14.64	6,639	14.64	6,639	40% of ABC landings portion (FMP allocation) + expected recreational dead discards
<b>Recreational ACT</b>	12.48	5,662	15.02	6,814	14.25	6,465	14.64	6,639	14.64	6,639	MC: Maintain no deduction from ACL for management uncertainty
<b>RHL</b>	8.32	3,776	10.59	4,804	10.12	4,588	10.36	4,697	10.36	4,697	Recreational ACT, minus expected recreational dead discards

## Scup 2022-2023 Specifications

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The MC agreed with the staff recommendation for 2022-2023 ACLs, ACTs, and landings limits based on the SSC's ABC recommendations for the varying approach (Table 2). The SSC was unable to recommend a constant ABC approach given the 2023  $p^*$  exceeding 0.50. Because of this, the MC would need to recommend ACTs resulting in a total catch limit lower than what the SSC recommended in order to keep limits constant across the two years. They agreed that they could not justify recommending constant limits if it meant recommending lower ACTs and foregoing quota. The MC also agreed with using the 3-year average proportion of discards by sector which was the approach adopted by the Council and Board in 2019.

The MC also discussed a request received by the Council from Lund's Fisheries<sup>1</sup> to analyze increasing the scup commercial Winter I possession limit to 100,000 pounds (from the current 50,000 pounds) or eliminating it entirely for 2022-2023. According to the request, this change would help Lund's continue to build their frozen markets for scup. The request further proposes that the MC analyze decreasing the commercial minimum fish size from 9 inches to 8 inches total length (TL) to further support developing these frozen markets.

The MC discussed that the proposed decrease in minimum size to 8 in TL would allow for the harvest of scup at a size where about 57% are mature. At the current minimum size of 9 inches TL, about 84% are mature. Overall, the MC did not feel it was acceptable to increase fishing pressure on immature fish, particularly at a time when recruitment is the lowest of the time series. **The MC recommended that the commercial scup minimum size remain 9 inches TL.** They did note that according to the Standardized Bycatch Reporting Methodology report from 2018-2019 about 53% of discards were due to size regulation so they were interested in whether a large portion of those were 8 inch TL fish. Some MC members felt that finding ways to allow for discarding less fish during years of high recruitment should be investigated, for example by allowing the retention of buffer amounts of undersized scup. One MC member said this is being explored in New England groundfish through Electronic Monitoring. MC members noted that this could be difficult to implement and one MC member felt that this was a slippery slope and was concerned about potential harm to the stock.

The MC also addressed the possession limit increase requested by Lund's Fisheries and discussed the staff memo including Winter I trip landings from 2018-2020.<sup>2</sup> They noted that it does not appear that vessels are currently landing the current 50,000 pound trip limit. One MC member and a few industry members in attendance said single trips can be landed on different days and/or with landings split across different dealers so some high poundage trips may not be accurately reflected in this analysis. Council staff accounted for trips across different dealers, however, they may not have captured trips across days. Council staff will work with GARFO staff to identify those trips before the August Council and Board meeting. One MC member noted that they were not comfortable with doubling or eliminating the current Winter I quota period possession limit and another voiced concerns with the impacts to state limits and the Winter II quota period. Some MC members felt that analyzing more incremental change in the future would be more appropriate. Another MC member wanted more information on what bycatch might look like at a 100,000 pound trip limit and what unintentional shifts in access by different user groups might occur. One

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<sup>1</sup> Available at [https://www.mafmc.org/s/Lunds\\_scup\\_request2021.pdf](https://www.mafmc.org/s/Lunds_scup_request2021.pdf)

<sup>2</sup> Available at [https://www.mafmc.org/s/Scup\\_MC\\_commercial\\_measures\\_memo2021.pdf](https://www.mafmc.org/s/Scup_MC_commercial_measures_memo2021.pdf)

member noted that on one hand this is a healthy stock and it would be beneficial to better utilize it; however, there are concerns about potential impact of increasing possession limits on smaller vessels in the fresh market. **Overall, the MC recommended no changes to the Winter I quota period possession limit and no changes to other commercial measures in 2022.** The MC discussed the need to evaluate the underharvesting of scup throughout the year and felt a more holistic and in depth evaluation across the quota periods is warranted.

One MC member pointed out the continued disparity between the scup RHL and recreational harvest under the revised MRIP estimates and emphasized the need for resolution on the ongoing Commercial/Recreational Allocation Amendment for all three species.

#### *Public comments*

A member of the public speaking for Lund's Fisheries felt that due to the high biomass, the MC was being too conservative with the scup regulations. The high biomass provides an opportunity to be more risky and changes can be evaluated at the next assessment. They also stated that they do not intend to target 8-inch fish so they would be converting discards into landings. They also noted that the comments about crashing the fresh market from advisors have not been analyzed economically so they should be discounted. From their perspective, last year was their best year and the company has invested potential for bringing frozen product to market. They are currently seeking Marine Stewardship Council certification and see opportunities for retail and wholesale markets.

An AP member asked about the biomass impacts of a 2017 MC recommendation to add an uncertainty buffer to the commercial ACL resulting in a lower ACT and quota for the purposes of market stability. They also commented on the amount of investment in infrastructure, certification, and employees they have taken on.

Another AP member did not support a decrease in size or increase in possession limit due to the lowest recruitment in 20 years and the negative impacts to the fresh fish market and the New York scup fishery. They also noted that this fishery does not have limited access in New York or a control date. Other ways of increasing quota utilization should be explored.

One AP member supported decreasing the minimum scup size in order to replace tilapia in the market and decrease U.S. imports.



**Table 2:** Monitoring Committee recommended 2022-2023 scup catch and landings limits under the varying ABC approach compared with currently implemented 2021 limits.

Measure	Current		2022		2023		Basis for 2022-2023 Measures
	mil lb	mt	mil lb	mt	mil lb	mt	
<b>OFL</b>	35.30	16,012	32.56	14,770	30.09	13,648	Assessment projections
<b>ABC</b>	34.81	15,791	32.11	14,566	29.67	13,460	Assessment projections & risk policy
<b>ABC discards</b>	8.24	3,740	5.65	2,564	6.39	2,900	Assessment projections
<b>Commercial ACL</b>	27.15	12,317	25.05	11,361	23.15	10,499	78% of ABC (per FMP)
<b>Commercial ACT</b>	27.15	12,317	25.05	11,361	23.15	10,499	Set equal to commercial ACL (MC recommendation)
<b>Projected commercial discards</b>	6.65	3,018	4.67	2,117	5.28	2,394	82.6% of ABC discards (avg. % of dead discards from commercial fishery, 2017-2019)
<b>Commercial quota</b>	20.50	9,299	20.38	9,245	17.87	8,105	Commercial ACT minus discards
<b>Recreational ACL</b>	7.66	3,474	7.06	3,205	6.53	2,961	22% of ABC (per FMP)
<b>Recreational ACT</b>	7.66	3,474	7.06	3,205	6.53	2,961	Set equal to recreational ACL (MC recommendation)
<b>Projected recreational discards</b>	1.59	722	0.99	447	1.12	506	17.4% of the ABC discards (avg. % of dead discards from rec. fishery, 2017-2019)
<b>RHL</b>	6.07	2,752	6.08	2,757	5.41	2,455	Recreational ACT minus discards

## **Black Sea Bass 2022-2023 Specifications**

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**The MC agreed with all staff recommendations for 2022-2023 specifications, including the catch and landings limits shown in Table 3 and no changes to the commercial management measures or February recreational opening for 2022.**

One MC member noted that it is beneficial to have stability in catch and landings limits and asked if the SSC could have recommended a slightly lower constant ABC to keep the  $p^*$  below 0.5 in all years. He said this would be preferable to achieving constant catch and landings limits through a management uncertainty buffer to set both years equal to the lower of the two. Staff noted that the SSC chose not to recommend revised projections to achieve constant ABCs because a number of decisions would need to be made about how to perform those projections and the SSC felt that those decisions would be arbitrary without agreed upon guidance. Ultimately the MC did not recommend any approaches to set constant catch and landings limits across 2022 and 2023 and instead recommended the values shown in Table 3 based on the SSC's varying ABC recommendations.

The MC noted the 2020 RHL overage and agreed that this will be considered when setting 2022 recreational management measures later this year. They acknowledged that the current commercial/recreational allocation poses challenges for constraining the recreational fishery to the ACL and RHL without major restrictions.

The MC recommended no changes to the February recreational black sea bass opening. States must opt into this opening and adjust their measures later in the year as needed to prevent their participation from increasing their annual harvest. One MC member noted that this program provides flexibility for states, as participation is optional and there have not been major problems with the current process of states adjusting measures later in the year to account for February harvest. Virginia is the only state that has participated every year since 2021. The MC member from Virginia noted that the state is in favor of maintaining this program.

### *Public Comments*

One AP member asked about recreational discard estimates in 2019 and 2020 and asked if the Monitoring Committee really believes that the RHL was exceeded by 56% in 2020. He asked how the Monitoring Committee plans to address management uncertainty for the recreational fishery moving forward.

Another AP member noted that the commercial fishery must payback quota overages, pound for pound. She said the recreational fishery is held to a "suggestion" because they are not required to payback overages. She noted that this is a fairness issue.

**Table 3:** Monitoring Committee recommended 2022-2023 black sea bass catch and landings limits under the varying ABC approach compared with currently implemented 2021 limits.

Measure	Current		2022		2023		Basis
	mil lb	mt	mil lb	mt	mil lb	mt	
<b>OFL</b>	17.68	8,021	19.26	8,735	17.01	7,716	Stock assessment projections
<b>ABC</b>	17.45	7,916	18.86	8,555	16.66	7,557	Stock assessment projections and Council risk policy
<b>Expected com. dead discards</b>	3.43	1,556	3.63	1,649	3.21	1,456	Calculated based on assumption that com. dead disc. would be 36% of com. catch in all 3 years (2016-2018 and 2017-2019 avg.)
<b>Expected rec. dead discards</b>	1.58	719	2.02	917	1.79	810	Calculated based on assumption that rec dead disc would be 20% of rec catch in 2021 (2016-2018 avg) and 23% of rec catch in 2022 & 2023 (2017-2019 avg)
<b>ABC landings</b>	12.44	5,641	13.20	5,990	11.66	5,291	ABC - expected com. and rec. dead discards
<b>Com. ACL</b>	9.52	4,320	10.10	4,583	8.93	4,048	49% of ABC landings portion + expected com. disc.
<b>Com. ACT</b>	9.52	4,320	10.10	4,583	8.93	4,048	Equal to the ACL; no deduction for management uncertainty
<b>Com. quota</b>	<b>6.09</b>	<b>2,764</b>	<b>6.47</b>	<b>2,934</b>	<b>5.71</b>	<b>2,592</b>	Com. ACT minus expected com. dead discards
<b>Rec. ACL</b>	7.93	3,596	8.76	3,972	7.74	3,509	51% of ABC landings portion + expected rec. disc.
<b>Rec. ACT</b>	7.93	3,596	8.76	3,972	7.74	3,509	Equal to the ACL; no deduction for management uncertainty
<b>RHL</b>	<b>6.34</b>	<b>2,877</b>	<b>6.74</b>	<b>3,055</b>	<b>5.95</b>	<b>2,699</b>	Rec. ACT minus expected rec. dead discards



## Summer Flounder, Scup, and Black Sea Bass Advisory Panel Meeting Summary

July 29, 2021

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel (AP) met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass AP on July 29, 2021. The purpose of the meeting was to provide an update on the 2021 Management Track Assessment results for each species, review the Scientific and Statistical Committee (SSC) and Monitoring Committee recommendations for 2022-2023 specifications, and for the AP to provide recommendations to the Council and Board on these issues.

Please note: Advisor comments described below are not consensus or majority statements.

**Council Advisory Panel members present:** Katie Almeida (MA), Carl Benson (NJ), Frank Blount (RI)\*, Joan Berko (NJ), Bonnie Brady (NY), Jeff Deem (VA), Joseph DeVito (NY), Greg DiDomenico (NJ)\*, James Fletcher (NC), Jeremy Hancher (PA), Mike Plaia (CT)\*, Mike Waive (NC)

**Commission Advisory Panel members present:** Frank Blount (RI)\*, Greg DiDomenico (NJ)\*, Mike Plaia (RI)\*

\*Serves on both Council and Commission Advisory Panels.

**Others present:** Chris Batsavage (Council and Board member), Julia Beaty (MAFMC Staff), Ellen Bolen (Council member), Dustin Colson Leaning (ASMFC Staff), Karson Coutré (MAFMC Staff), Kiley Dancy (MAFMC Staff), Tony DiLernia (Council member), Dan Farnham (Council member), Dewey Hemilright (Council member), Raymond Kane (Board member), Emily Keiley (NMFS GARFO), Savannah Lewis (ASMFC Staff), Shanna Madsen (VMRC), David Stormer (Council member)

### 2022-2023 Summer Flounder Specifications

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One advisor asked why a constant ABC approach was recommended by the Monitoring Committee and asked for clarification on the purpose of these two sets of ABCs. He also voiced concern over the Monitoring Committee recommending constant catch and landings limits for the purposes of market stability as this may not be achieved and would result in forgone yield in one year, compared to the varying approach. He wondered whether adding a buffer in 2017 to the scup commercial ACL was beneficial and if that had been analyzed. He also voiced concern over the 31% RHL overage but said he was skeptical of the 2020 MRIP estimates. He noted that the Monitoring Committee identifies areas of management uncertainty in the recreational sector but then does not apply a buffer to the recreational ACL.

One advisor said he's seen fewer summer flounder over the past three years. Another advisor said he'd heard that summer flounder fishing had been slow this year.

One advisor said that in 1976 the commercial fishing industry requested a 5 inch mesh and an 11 or 12 inch minimum size for summer flounder. He recommended these regulations be adopted for the upcoming fishing year. He also recommended looking into a recreational hook size requirement to reduce bycatch.

One advisor noted that there were recreational overages for summer flounder, scup and black sea bass in 2020 and asked what impacts those overages could have on spawning stock biomass (SSB). She also asked whether there were trends with fishery performance and SSB over time and whether overages or underages affect stock status.

Four advisors supported the varied ABC approach while one recommended the constant ABC approach. One advisor asked whether the constant or varying decision would be revisited next year or only when a new assessment is available. Staff clarified that this would set constant or varying ABCs for the next two years; however, catch and landings limits could change with the pending final action of the commercial/recreational allocation amendment. The advisor recommending the constant approach believed that stability would be beneficial for the price of summer flounder since the market is fragile and recovering from COVID-related impacts.

One advisor asked how projected discards are calculated and whether recreational discards in the stock assessment are based on MRIP estimates. Staff clarified how discards are calculated and reiterated that the 2020 MRIP data were not incorporated into the 2021 assessments for these species.

One advisor said that for commercial measures he recommended keeping a 5 and a half inch minimum mesh size and agreed with advisor comments from the June AP meeting to revisit the exemption line and added that he did not think anyone uses a 2 seam flynet.

## **2022-2023 Scup Specifications**

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One advisor said management has given imports a larger market share than they deserve and added that he would like to see a report on the quantity and size of tilapia imports. He said that all three species should have a 4 ¾ or 5 inch net and the minimum fish size should be reduced to the size of the net. He said he would support moving to an 8 inch minimum fish size or lower.

Another advisor representing Lund's Fisheries supported their proposed changes but understood why the Monitoring Committee would require more analysis. He stated that they would participate and assist as needed through this process. He added that the Winter I fishery has not come close to reaching their quota and has room to grow, and Lund's has no intention of fishing on smaller fish. The minimum size decrease would allow for keeping a portion of their current catch that is discarded.

Four advisors did not support a decrease in the scup minimum size and increase in the Winter I possession limit in the commercial fishery for various reasons. Two advisors were specifically concerned that an increased possession limit would encourage greater harvest from much larger boats that are capable of hauling several hundred thousands of pounds of fish per trip. They felt that this would harm the current fleet of smaller fishing vessels and their businesses. The winter price per pound for scup can go over a dollar or more and the fishery can be very important to the current fishermen during that time.

One advisor said 8 inch scup are a bony fish with no meat and could not see the advantage of decreasing the size limit, noting that even 9-10 inch scup can ruin the market when they are landed. Another advisor said that his concerns with decreasing the minimum size related to the poor scup recruitment in recent years, especially in 2019, and did not feel that harvesting more immature fish was a good idea for stock health.

## **2022-2023 Black Sea Bass Specifications**

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One commercial fishing advisor from New Jersey said the black sea bass population has exploded over the last decade. He said he hasn't seen any signs of the population decreasing, despite the stock assessment showing a declining trend in biomass in recent years. He added that the abundant black sea bass population is increasing competitive pressure on other stocks.

This same advisor said the estimated 36% of commercial dead catch coming from discards in 2017-2019 seems high. He added that he probably hasn't discarded more than 5-10% of his catch in a year under New Jersey's 3,000 pound trip limit. He said he would like this discard assumption to be revisited when specifications are reviewed in the future.

Another commercial fishery advisor agreed that 36% of commercial dead catch coming from discards seemed too high given the minimum mesh size requirements for trawls and escape vent requirements for pots/traps, both of which allow most black sea bass to escape alive. He added that many trawl vessels use a larger minimum mesh size than the 4.5 inches required for black sea bass so they can also comply with the groundfish mesh size requirements (5.5 or 6 inches).

One advisor said changes in the state allocations, which may be implemented for 2022, may result in fewer commercial discards than during 2017-2019, the years used to estimate discards when calculating the catch and landings limits. Another advisor wondered whether the changes to the commercial accountability measures, which became effective in 2019, would impact trends in discards.

One recreational fishing advisor said he's seen a lot of small black sea bass off New Jersey and Maryland. He asked if the Council and Board would consider recreational hook size requirements to minimize discard mortality.

One advisor expressed concerns about the ability of fisheries independent trawl surveys to adequately sample structured habitat and said this creates uncertainty in the stock assessment.

This same advisor said there is market demand for smaller fish, especially in some minority communities where cooking a whole fish is more common. He added that allowing harvest of smaller fish would benefit low income communities. He reiterated his request that management allow for harvest of smaller fish and the minimum trawl mesh sizes should match the allowable fish size.

The SSC Report is  
behind Tab 14.



## Mid-Atlantic Fishery Management Council

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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

# MEMORANDUM

**Date:** July 19, 2021  
**To:** Chris Moore, Executive Director  
**From:** Julia Beaty, staff  
**Subject:** 2022-2023 Black Sea Bass Specifications

## Executive Summary

This memorandum includes information to assist the Mid-Atlantic Fishery Management Council's (Council's) Scientific and Statistical Committee (SSC) and Monitoring Committee in recommending 2022-2023 catch and landings limits for black sea bass, as well as black sea bass commercial management measures for 2022.

The black sea bass stock from Maine through Cape Hatteras, North Carolina is cooperatively managed by the Council and the Atlantic States Fishery Management (Commission). Additional information on fishery performance and past management measures can be found in the 2021 Black Sea Bass Fishery Information Document and the 2021 Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report developed by advisors.<sup>1</sup>

A black sea bass management track stock assessment was peer reviewed and accepted in June 2021. This assessment found that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2019 compared to revised reference points. Spawning stock biomass (SSB) in 2019 was 65.63 million pounds (29,769 mt, adjusted for retrospective bias), 2.1 times the updated biomass reference point (i.e.,  $SSB_{MSY\ proxy} = SSB_{40\%} = 31.84$  million pounds/14,441 mt). The average fishing mortality rate (F) on fully selected ages 6-7 fish in 2019 was 0.39 (adjusted for retrospective bias), 85% of the updated fishing mortality threshold reference point (i.e.,  $F_{MSY\ proxy} = F_{40\%} = 0.46$ ).<sup>2</sup>

The Magnuson-Stevens Fishery Conservation and Management Act requires the Council's SSC to provide scientific advice for fishery management decisions, including recommendations for Acceptable Biological Catch limits (ABCs), prevention of overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABCs recommended by the SSC.

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<sup>1</sup> Available at: <https://www.mafmc.org/fishery-performance-reports>

<sup>2</sup> A draft of the 2021 management track stock assessment report prepared for the peer review and for Council and SSC consideration is available at: <https://www.mafmc.org/ssc-meetings/2021/july21-23>



Based on the SSC's recommended 2022-2023 ABCs, the Monitoring Committee will recommend commercial and recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs), commercial quotas, and recreational harvest limits (RHLs). The Monitoring Committee will also consider whether any revisions are needed to the commercial management measures (minimum fish size, minimum mesh size, and mesh exemption programs) for 2022.

The Council will meet jointly with the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) in August 2021 to review the recommendations of the SSC and Monitoring Committee, as well as input from the Advisory Panel, and adopt catch and landings limits for 2022-2023 and any desired changes to the commercial management measures for 2022. Recreational bag limits, size restrictions, and open/closed seasons for 2022 will be considered in late 2021 after preliminary recreational harvest estimates through August 2021 are available.

This document includes two sets of ABC projections for 2022-2023 based on the 2021 management track assessment: one allowing for identical ABCs across the two years and one allowing for variable ABCs across the two years. Assumptions related to the projections are described on pages 10-12. Note that the assumption used in this memo regarding total 2021 dead catch differs from that used in the projections included in the draft assessment document. The SSC may recommend ABCs based on different assumptions.

Table 1 lists the commercial and recreational ACLs and ACTs, as well as commercial quotas and RHLs, resulting from the ABC projections provided in this memo. These sector-specific catch and landings limits assume no changes are made to the method used to calculate expected black sea bass dead discards in each sector. The Monitoring Committee may recommend different values for these catch and landings limits.

Staff do not recommend any changes to the current federal commercial management measures, including the minimum fish size, mesh size requirements and associated incidental possession limits, or pot/trap gear requirements for 2022.

**Table 1:** Implemented 2021 black sea bass catch and landings limits, as well as potential 2022-2023 catch and landings limits under constant and variable ABCs. Catch and landings limits in 2022 and 2023 are based on the staff recommended assumptions for ABC projections and discard calculations described later in this document.

Mgmt Measure	2021		2022 & 2023, avg ABCs recommended)		2022 & 2023, varying ABCs				Basis
	mil lb	mt	mil lb	mt	2022		2023		
					mil lb	mt	mil lb	mt	
<b>OFL</b>	17.68	8,021	19.26 (2022); 17.34 (2023)	8,735 (2022); 7,865 (2023)	19.26	8,735	17.01	7,716	Stock assessment projections
<b>ABC</b>	17.45	7,916	17.76	8,056	18.86	8,555	16.66	7,557	Stock assessment projections and Council risk policy
<b>Expected com. dead discards</b>	3.43	1,556	3.42	1,553	3.63	1,649	3.21	1,456	Calculated based on assumption that com. dead disc. would be 36% of com. catch in all 3 years (2016-2018 and 2017-2019 avg.)
<b>Expected rec. dead discards</b>	1.58	719	1.90	863	2.02	917	1.79	810	Calculated based on assumption that rec dead disc would be 20% of rec catch in 2021 (2016-2018 avg) and 23% of rec catch in 2022 & 2023 (2017-2019 avg)
<b>ABC landings</b>	12.44	5,641	12.43	5,640	13.20	5,990	11.66	5,291	ABC - expected com. and rec. dead discards
<b>Com. ACL</b>	9.52	4,320	9.51	4,316	10.10	4,583	8.93	4,048	49% of ABC landings portion + expected com. disc.
<b>Com. ACT</b>	9.52	4,320	9.51	4,316	10.10	4,583	8.93	4,048	Equal to the ACL; no deduction for management uncertainty
<b>Com. quota</b>	<b>6.09</b>	<b>2,764</b>	<b>6.09</b>	<b>2,763</b>	<b>6.47</b>	<b>2,934</b>	<b>5.71</b>	<b>2,592</b>	Com. ACT minus expected com. dead discards
<b>Rec. ACL</b>	7.93	3,596	8.25	3,740	8.76	3,972	7.74	3,509	51% of ABC landings portion + expected rec. disc.
<b>Rec. ACT</b>	7.93	3,596	8.25	3,740	8.76	3,972	7.74	3,509	Equal to the ACL; no deduction for management uncertainty
<b>RHL</b>	<b>6.34</b>	<b>2,877</b>	<b>6.34</b>	<b>2,877</b>	<b>6.74</b>	<b>3,055</b>	<b>5.95</b>	<b>2,699</b>	Rec. ACT minus expected rec. dead discards

## **Recent Catch and Landings**

The COVID-19 pandemic impacted data collection in both the recreational and commercial fisheries in 2020. Commercial fisheries observer data collection was suspended from mid-March through mid-August 2020. Recreational data collection through the Access Point Angler Intercept Survey (APAIS) was suspended starting in late March or April and resumed between May and August 2020, depending on the state. Commercial seafood dealer reporting, submission of vessel trip reports (VTRs), and MRIP effort sampling through mail and phone surveys continued uninterrupted throughout 2020.

MRIP staff used imputation methods to fill 2020 data gaps resulting from temporary suspension of APAIS sampling with data collected in 2018 and 2019. These proxy data match the time, place, and fishing modes that would have been sampled had APAIS sampling continued uninterrupted. Proxy data were combined with observed data to produce 2020 catch estimates using the standard estimation methodology. When complete 2021 data are available in 2022, MRIP staff will evaluate the effects of including 2021 data (e.g., alongside 2019 data and instead of 2018 data) in the imputation. Because these effects are unknown, the agency cannot predict whether it will seek to revise the 2020 catch estimates in 2022.

Estimates of dead discards in both sectors in 2020 are not currently available. The method for estimating the weight of recreational discards relies on age and length information that is not complete at this time. Commercial dead discard estimates are not available for 2020 due to data gaps resulting from the temporary suspension of observer data collection. At this time, it is not known if alternative methodologies will be developed to generate 2020 commercial discard estimates. Estimates of dead discards in both sectors through 2019 are available in the draft 2021 management track stock assessment report.<sup>3</sup>

Commercial and recreational landings increased each year from 2018 through 2020. Commercial landings totaled about 4.21 million pounds in 2020, the highest level since the start of the joint Council/Commission management program in 1998. Commercial landings typically closely follow the commercial quota and the 2020 quota (5.58 million pounds) was higher than any previous quota (Table 2). The 2020 commercial quota was not fully landed in large part due to impacts of the COVID-19 pandemic on market demand.

Based on data reported through July 7, 2021, about 2.38 million pounds of black sea bass have been landed by commercial fishermen from Maine through Cape Hatteras, NC in 2021, corresponding to 39% of the 2021 commercial quota (6.09 million pounds; Table 3).

Recreational landings are more variable than commercial landings. In 2020, recreational landings totaled 9.05 million pounds, the highest level since 2016 and 2017, which are years with recreational harvest estimates that have been identified by the SSC and Monitoring Committee as implausibly high outliers. Recreational landings in 2020 were about 56% greater than the RHL (5.81 million pounds; Table 2). This recreational overage was not unexpected as the Council and Board agreed to leave the recreational bag, size, and season limits unchanged in 2020 despite an anticipated RHL overage. This was viewed as a temporary solution to allow more time to consider how to fully transition the management system to use of the revised time series of MRIP data released in 2018, including ongoing considerations related to the commercial/recreational allocations and many changes to recreational fisheries management

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<sup>3</sup> Available at: <https://www.mafmc.org/ssc-meetings/2021/july21-23>

under consideration through the ongoing Recreational Reform Initiative.<sup>4</sup> The Council and Board also agreed to leave the recreational bag, size, and season limits unchanged in 2021 for similar reasons, despite a similar anticipated RHL overage in 2021.

As of this memo, recreational estimates for 2021 are only available through wave 2 (March/April), which does not provide meaningful insights into 2021 recreational harvest given that the recreational black sea bass fishery was closed through at least May 15, 2021 in all states except for Virginia and New Hampshire.

**Table 2:** Black sea bass commercial and recreational landings relative to quotas and RHLs (in millions of pounds), 2016-2020, and quota and RHL for 2021. The RHL overage/underage evaluation is based on recreational harvest estimates using the old MRIP-estimation methodology through 2018 and the revised MRIP estimates for 2020. 2019 estimates in the old MRIP units are not available. RHLs prior to 2020 should not be compared to harvest in the new MRIP units because those RHLs did not account for revisions to the data. As described above, the 2020 MRIP harvest estimate is partially based on imputed values.

Year	Com. landings	Com. quota	Quota overage/underage	Rec. harvest (old MRIP estimates)	Rec. harvest (revised MRIP estimates)	RHL	RHL overage/underage
2016	2.59	2.71	-4%	5.19	12.05	2.82	+84%
2017	4.01	4.12	-3%	4.16	11.50	4.29	-3%
2018	3.46	3.52	-2%	3.82	7.92	3.66	+4%
2019	3.53	3.52	0%	--	8.61	3.66	--
2020	4.21	5.58	-25%	--	9.05	5.81	+56%
2021	--	6.09	--	--	--	6.34	--

<sup>4</sup> More information on the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment is available at: <https://www.mafmc.org/actions/sfsbsb-allocation-amendment>. More information on the Recreational Reform Initiative is available at: <https://www.mafmc.org/actions/recreational-reform-initiative>

**Table 3:** 2021 black sea bass commercial landings by state, according to preliminary data reported through July 7, 2021. Data accessed July 13, 2020 from <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

State	Landings (lb)
ME	0
NH	0
MA	11,263
RI	349,189
CT	39,878
NY	200,961
NJ	666,053
DE	180,300
MD	414,650
VA	354,617
NC	165,714
<b>Total</b>	<b>2,382,625</b>
<b>2021 Commercial Quota</b>	<b>6,090,000</b>
<b>Percent of Quota Landed</b>	<b>39%</b>

### **Stock Status and Biological Reference Points**

A black sea bass management track stock assessment was peer reviewed and accepted in June 2021. The following information is based on the draft assessment report prepared for the peer review and for use by the Council and SSC.<sup>5</sup> This assessment retained the model structure of the 2016 benchmark stock assessment<sup>6</sup> and incorporated fishery data and fishery-independent survey data through 2019. Data from 2020 were not incorporated due to significant gaps in some data sets as a result of the COVID-19 pandemic and the time required to consider how to best address those gaps.

As with the 2016 benchmark assessment, the 2021 management track assessment has a regional structure. The stock was modeled as two separate sub-units (north and south) divided at approximately Hudson Canyon. Each sub-unit was modeled separately and the average F and combined biomass and SSB across the two sub-units were used to develop stock-wide reference points.

Due to the lack of a stock/recruit relationship, a direct calculation of maximum sustainable yield (MSY) and associated reference points (F and SSB) is not feasible and proxy reference points were used. SSB calculations and SSB reference points account for mature males and females. The updated reference points are shown in Table 5 alongside the reference points from the previous assessment for comparison.

<sup>5</sup> A draft of the 2021 management track stock assessment report prepared for the peer review and for Council and SSC consideration is available at: <https://www.mafmc.org/ssc-meetings/2021/july21-23>

<sup>6</sup> 62<sup>nd</sup> Northeast Stock Assessment Workshop (2016) assessment report and peer review summaries are available at: <https://www.nefsc.noaa.gov/saw/reports.html>

A comparison of the 2019 SSB and F estimates to the reference points suggests that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2019. SSB in 2019 was estimated at 65.63 million pounds (29,769 mt, adjusted for retrospective bias), 2.1 times the updated biomass reference point (i.e.,  $SSB_{MSY\ proxy} = SSB_{40\%} = 31.84$  million pounds/14,441 mt). The average fishing mortality rate on fully selected ages 6-7 fish in 2019 was 0.39 (adjusted for retrospective bias), 85% of the updated fishing mortality threshold reference point (i.e.,  $F_{MSY\ proxy} = F_{40\%} = 0.46$ ; Table 5). The 2019 estimates of F and SSB were adjusted for internal model retrospective error (Figure 1). Figure 2 and Figure 3 show the time series of estimated SSB, recruitment, fishing mortality, and catch without retrospective adjustments.

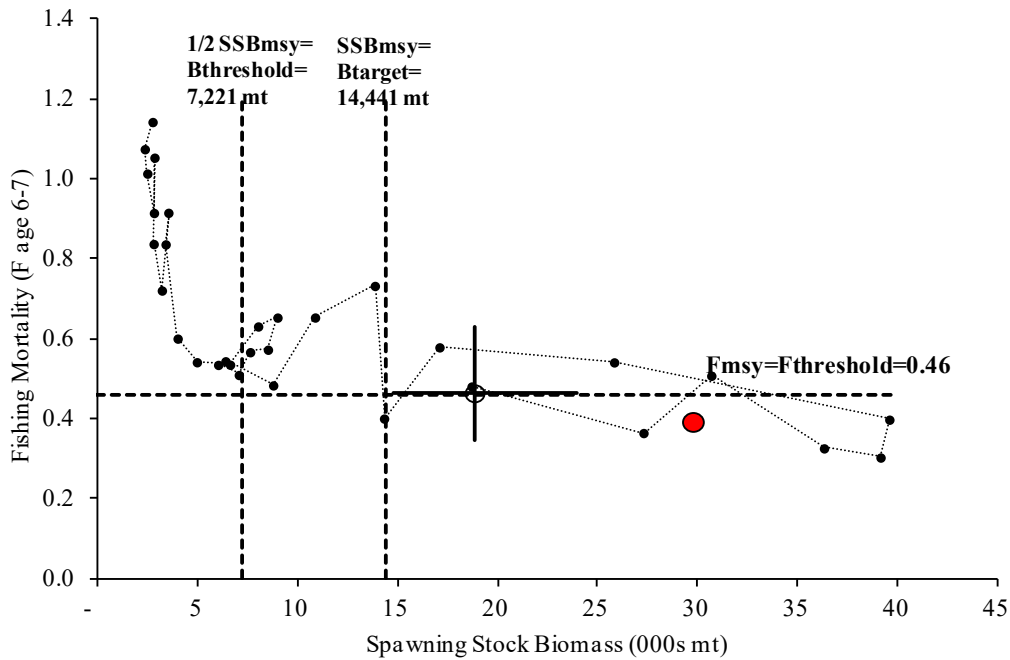
The 2011 year class was estimated to be the largest in the time series at 170.4 million fish. The 2015 year class was the second largest at 93.8 million fish. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 14.9 million, well below the 1989-2019 average of 39 million fish. However, the 2018 year class was above average at an estimated 46.2 million fish (79.4 million with the retrospective adjustment) at age 1 in 2019 (Figure 2).

**Table 4:** Black sea bass biological reference points from the 2019 operational stock assessment and the 2021 management track assessment.

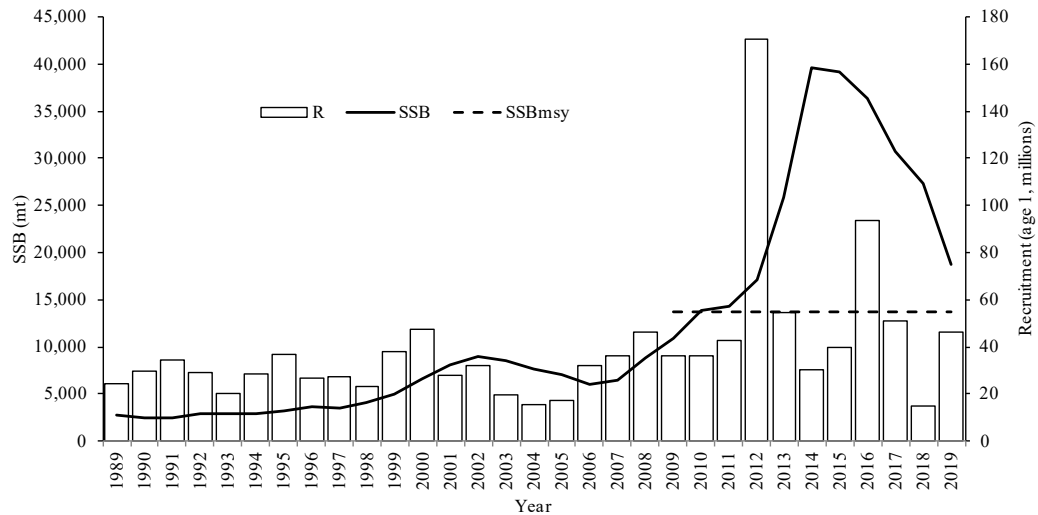
Reference points and terminal year SSB and F estimates	2019 operational stock assessment <sup>7</sup> Data through 2018	2021 management track stock assessment <sup>8</sup>
$SSB_{MSY\ proxy} = SSB_{40\%}$ (biomass target)	31.07 mil lb / 14,092 mt	31.84 mil lb / 14,441 mt
$\frac{1}{2} SSB_{MSY}$ (biomass threshold defining an overfished status)	15.53 mil lb / 7,046 mt	15.92 mil lb / 7,221 mt
<b>Terminal year SSB</b>	73.65 mil lb / 33,407 mt (2018) Adjusted for retrospective bias 240% of $SSB_{MSY}$	65.63 mil lb / 29,769 mt (2019) Adjusted for retrospective bias 210% of $SSB_{MSY}$
$F_{MSY\ proxy} = F_{40\%}$ (threshold defining overfishing)	0.46	0.46
<b>Terminal year F</b>	0.42 (2018) Adjusted for retrospective bias Fully selected ages 6-7 9% below $F_{MSY}$	0.39 (2019) Adjusted for retrospective bias Fully selected ages 6-7 15% below $F_{MSY}$

<sup>7</sup>A draft of the 2021 management track stock assessment report prepared for the peer review and for Council and SSC consideration is available at: <https://www.mafmc.org/ssc-meetings/2021/july21-23>

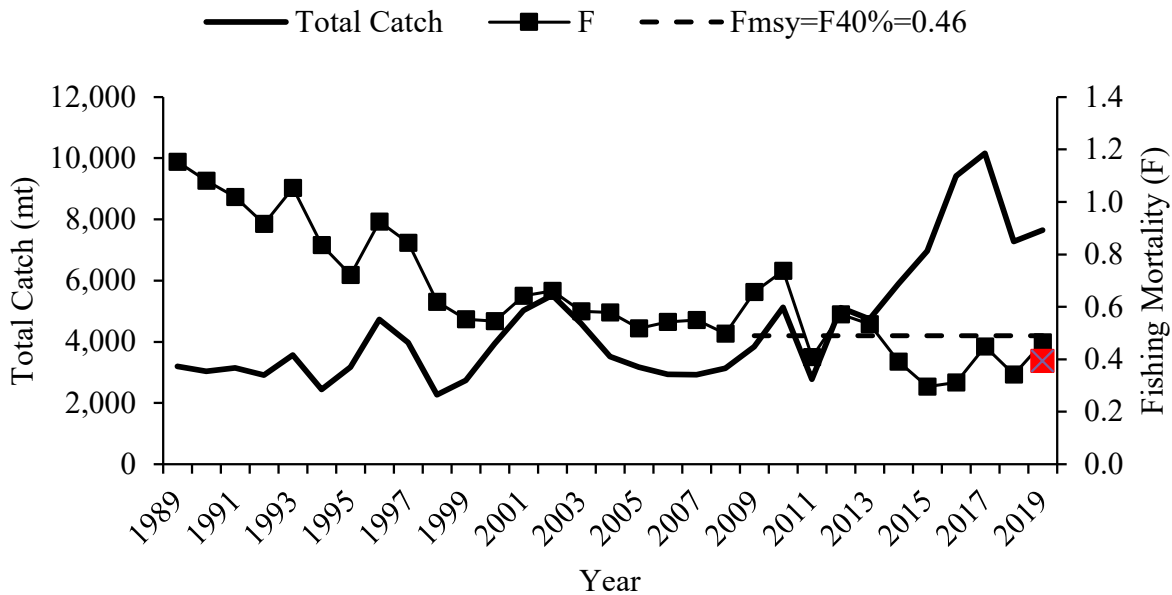
<sup>8</sup> Draft available at: <https://www.mafmc.org/council-events/2021/ssc-july-21-23>



**Figure 1:** Estimates of black sea bass spawning stock biomass (SSB) and fully-recruited fishing mortality (F, peak at ages 6-7) relative to the updated 2021 biological reference points. Open circle with 90% confidence intervals shows the assessment point estimates. The filled circle shows the retrospectively adjusted estimates. Source: 2021 management track assessment.



**Figure 2:** Black sea bass spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the updated  $SSB_{MSY}$  proxy =  $SSB_{40\%} = 14,441$  mt. Source: 2021 management track assessment. Note that SSB and recruitment estimates were adjusted for a retrospective pattern in the stock assessment. The un-adjusted values are shown in this figure. Adjusted SSB in 2019 for comparison against the  $SSB_{MSY}$  proxy reference point is 29,769 mt. The adjusted recruitment value for 2019 is 79.4 million.



**Figure 3:** Total fishery catch (metric tons; mt; solid line) and fishing mortality (F, peak at age 6-7; squares) for black sea bass. The horizontal dashed line is the updated F<sub>MSY</sub> proxy = F<sub>40%</sub> = 0.46. The red square is the retrospectively adjusted fishing mortality value for 2019. Source: 2021 management track assessment.

### Review of Prior SSC Recommendations

In September 2019, the SSC recommended 2020 and 2021 ABCs for black sea bass based on stock status information and projections from the 2019 operational stock assessment. In July 2020, the SSC revised their 2021 ABC recommendation based only on a change in the Council’s risk policy which allowed for a higher probability of overfishing for highly abundant stocks than the previous risk policy.

The SSC applied a 100% coefficient of variance (CV) to the overfishing limit (OFL) when developing their ABC recommendations for 2020-2021. This represents an increase from the 60% OFL CV used for their 2017-2019 ABC recommendations.<sup>9</sup> A higher OFL CV results in a greater buffer between the OFL and the ABC to account for scientific uncertainty. However, it should be noted that under the Council’s revised risk policy which allows for a 49% probability of overfishing for stocks that are at least 150% of the biomass target level (which includes black sea bass), the OFL CV has a lesser impact on the ABC for very abundant stocks compared to the previous risk policy which allowed a maximum 40% probability of overfishing.

The following text was copied directly from the SSC’s September 2019 meeting summary<sup>10</sup> and describes their rationale for applying a 100% OFL CV for 2020-2021:

- There is a strong retrospective bias present in the assessment results and this pattern differs between the two spatial sub-areas.
- The fishery has a large recreational component (~60-80% of total harvest in recent years), and thus a substantial reliance on MRIP. Updated MRIP numbers differ substantially from the old estimates, and the updated estimate for one year (2016) was considered

<sup>9</sup> The SSC’s 2017-2019 ABC recommendations and supporting rationale are summarized here: <https://www.mafmc.org/s/January-2017-SSC-Report.pdf>

<sup>10</sup> Available at: <https://www.mafmc.org/s/September-2019-SSC-Meeting-ReportRevised.pdf>



implausible owing to high variance in wave-specific data.

- Spatially explicit models were implemented in the 2016 benchmark assessment, and there were detailed efforts to explore the consequences of the misspecification of the spatial resolution of these models on perceptions of stock status.
- There were broadly consistent patterns in the fishery independent indices.

The SSC determined the following to be the most significant sources of scientific uncertainty associated with determination of the 2020-2021 OFLs and ABCs in September 2019:

- The retrospective pattern was large enough to need the corrections (outside the 90% confidence intervals), and the additional uncertainty caused by applying the correction is unclear. The model for the northern sub-area has a larger retrospective pattern than the model for the southern sub-area.
- The natural mortality rate (M) used in the assessment —because of the unusual life history strategy, the current assumption of a constant M in the assessment model for both sexes —may not adequately capture the dynamics in M.
- The spatial distribution of productivity within the stock range.
- The level, temporal pattern, and spatial distribution of recreational catches.
- The nature of exchanges between the spatial regions defined in the assessment model.
- The extent to which the spatial structure imposed reflects the dynamics within the stock. The combination of the values from the northern and southern sub-areas is done without weighting based on landings or biomass. It is unclear whether or how the uncertainty should be treated when the biological reference points are combined using simple addition.
- Future effects of temperature on stock productivity and range are highly uncertain.

### **Staff Recommendations for 2022-2023 OFL and ABC Projections**

The SSC is asked to recommend two sets of ABCs for 2022-2023, one allowing for varying catch and landings limits across the two years and one allowing for constant catch and landings limits based on an ABC that is the average of the ABCs under the varying approach. This will allow the Council and Board to select between these two options during their August 2021 joint meeting.

Table 6 and Table 7 show projected ABCs based on the varying and averaged approaches, respectively. The projections were made separately for the northern and southern sub-units at  $F_{MSY}=0.46$ , then combined for total OFL and ABC calculations.

Both sets of projections assume a 100% OFL CV, based on past SSC recommendations. Recruitment was sampled from the estimates for 2000-2019. The Council's risk policy was applied, resulting in a probability of overfishing ( $p^*$ ) of 49%.

These projections also apply a staff-recommended assumption regarding total dead catch in 2020 and 2021. It was assumed that total dead catch in 2020 and 2021 will be equal to the respective ABCs, with an adjustment for a 2020 recreational harvest overage and an assumed 2021 recreational overage (Table 2). Specifically, it was assumed that 2021 recreational harvest would be the same as estimated 2020 recreational harvest. Total dead catch in 2020 and 2021 was assumed to be the ABC plus the difference between the 2020 recreational harvest estimate and the 2020 or 2021 RHL. It was assumed that 2021 recreational harvest will be equal to 2020 recreational harvest given that the bag, size, and season limits were the same across both years. This assumption results in an ABC overage of about 25% in both 2020 and 2021. Note that this

assumption differs from that used in the draft assessment document, which assumed 2021 catch would equal the ABC.

Total dead catch in 2020 is currently unknown, given the data gaps in commercial and recreational dead discard information described above. Future recreational harvest and future dead discards in both sectors are always challenging to predict. However, it is reasonable to assume that the ABC will be exceeded in both 2020 and 2021 due to recreational harvest that significantly exceeded the RHL in 2020 and is likely to also exceed the 2021 RHL given the recent scale of harvest (Table 2) and the virtually unchanged recreational bag, size, and season limits during 2018-2021. As previously stated, the Council and Board acknowledged that a 2021 RHL overage was likely when they agreed to leave the bag, size, and season limits unchanged. They recommended this as a short-term approach to prevent major negative impacts to the recreational sector while further considering how management may need to adapt to the revised MRIP data (e.g., through the ongoing Commercial/Recreational Allocation Amendment) and other improvements to recreational fisheries management under consideration through the Recreational Reform Initiative.

The SSC may recommend a different OFL CV and/or different projection assumptions during their July 2021 meeting. Northeast Fisheries Science Center staff may be able to provide revised projections at the request of the SSC.

The staff recommendations described in this memo result in a 2022 and 2023 ABC under the averaged approach that is 2% lower than the 2021 ABC. Under the varying approach, they result in a 2022 ABC that is 8% greater than the 2021 ABC and a 2023 ABC that is 12% lower than the 2022 ABC.

Council staff recommend that the Council and Board implement constant catch and landings limits in 2022 and 2023 based on the averaged ABC to provide predictability and stability in management measures for the commercial and recreational sectors across the two years.

**Table 5:** 2022-2023 OFL and ABC projections based on the varying ABC approach under the staff recommended projection assumptions. See text above for more information. (Source: personal communication, Kiersten Curti, Northeast Fisheries Science Center.)

Year	Assumed Catch		OFL		ABC		ABC F	ABC p*	SSB		B/B <sub>MSY</sub>
	MT	Mil. lb	MT	Mil. lb	MT	Mil. lb			MT	Mil. lb	
2020	8,310	18.32	8,795	19.39	6,835	15.07	0.33	N/A	26,375	58.15	1.83
2021	9,149	20.17	8,021	17.68	7,916	17.45	0.40	N/A	25,057	55.24	1.74
2022	8,555	18.86	8,735	19.56	8,555	18.86	0.41	0.49	22,637	49.91	1.57
2023	7,557	16.66	7,716	17.01	7,557	16.66	0.41	0.49	19,538	43.07	1.35

**Table 6:** 2020-2021 OFL and ABC projections based on the averaged ABC approach under the staff recommended projection assumptions. (Source: personal communication, Kiersten Curti, Northeast Fisheries Science Center.)

Year	Assumed Catch		OFL		ABC		ABC F	ABC p*	SSB		B/B <sub>MSY</sub>
	MT	Mil. lb	MT	Mil. lb	MT	Mil. lb			MT	Mil. lb	
2020	8,310	18.32	8,795	19.39	6,835	15.07	0.33	N/A	26,375	58.15	1.83
2021	9,149	20.17	8,021	17.68	7,916	17.45	0.40	N/A	25,057	55.24	1.74
2022	8,055	17.76	8,735	19.26	8,056	17.76	0.38	0.46	22,897	50.48	1.59
2023	8,055	17.76	7,865	17.34	8,056	17.76	0.43	0.51	19,683	43.39	1.36

## **Other Management Measures**

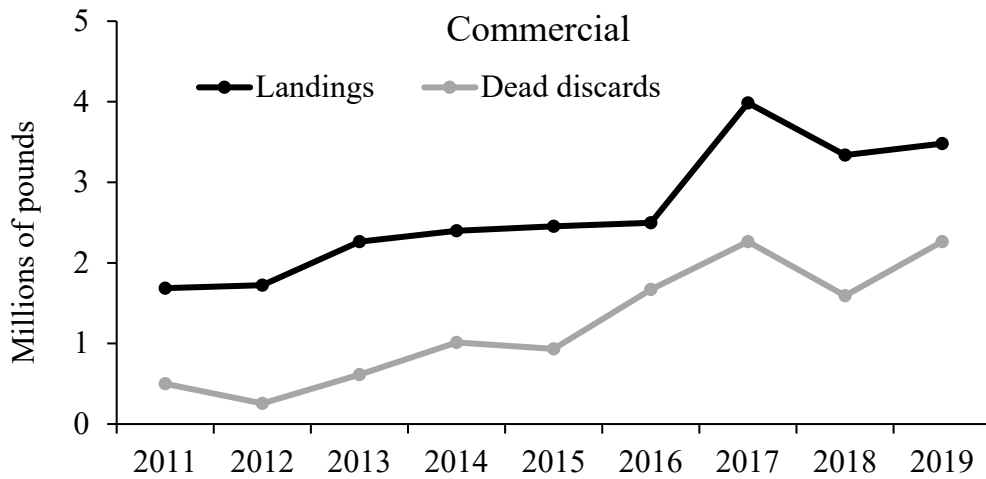
### ***Expected Commercial and Recreational Dead Discards***

It is necessary to calculate expected dead discards by sector to derive the 2022 and 2023 commercial and recreational ACLs, commercial quota, and RHL from the ABC. The methodology to calculate sector-specific dead discards to calculate ACLs and landings limits is not prescribed in the FMP and can be modified on an annual basis.

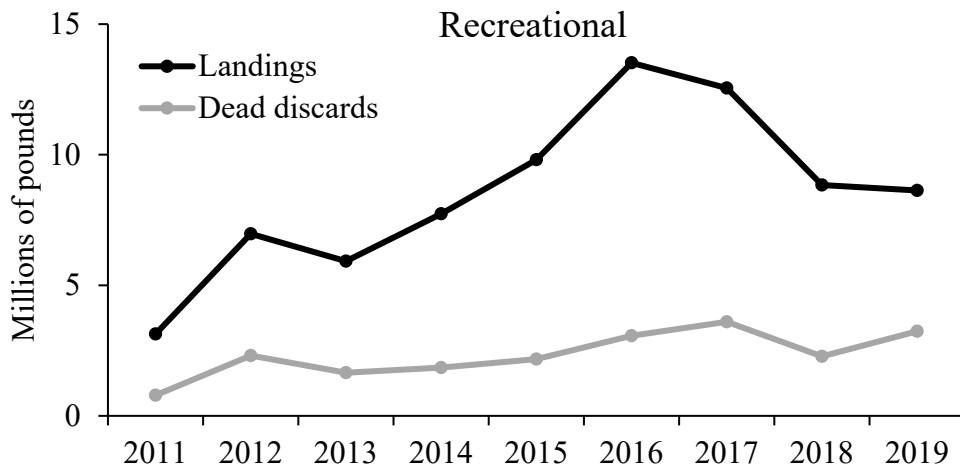
Staff recommend continued use of the discard calculation methodology used when setting the 2021 black sea bass catch and landings limits. This method differs from that used for summer flounder and scup. Prior to the 2021 specifications, the method for calculating expected black sea bass dead discards was similar to that used for summer flounder. In 2020, the Monitoring Committee, Council, and Board agreed that a different method was needed for black sea bass to help prevent future ACL overages as the black sea bass ACL in both sectors had been exceeded every year since at least 2015, all or in part due to under-estimated future dead discards when setting the catch and landings limits.

The method used for 2021 specifications and recommended for 2022-2023 specifications assumes that dead discards as a proportion of total dead catch in each sector will be equal to the average proportions over the last three years (i.e., commercial dead discards will be 36% of commercial catch and recreational dead discards will be 23% of recreational catch based on NEFSC data for 2017-2019; as previously stated, complete information on 2020 discards is not currently available). The calculations also account for the required 49% commercial, 51% recreational allocation of the amount of the ABC that is expected to be landed. When the Monitoring Committee first developed this method in 2019, they noted that commercial black sea bass landings tend to closely follow changes in the quota and that dead discards tend to scale up or down with increases or decreases in landings (Figure 4). A similar trend is evident in the recreational fishery, though the relationship is not as strong as in the commercial fishery (Figure 5). The Monitoring Committee noted that sector-specific dead discards as a proportion of sector-specific dead catch were relatively consistent during recent years, even under varying landings limits and highly variable recreational harvest estimates (including 2016 and 2017, two years with outlier recreational estimates). Therefore, they agreed that it would be appropriate to use a recent three-year average of the proportion of total dead catch in each sector that is discarded when calculating the black sea bass catch and landings limits. This differs from the previous method in that it starts with sector-specific assumptions about discards, rather than first starting with an assumption about the proportion of the total ABC which will be landed vs. discarded.

Under the averaged ABC listed in Table 7, this method results in 3.42 million pounds (1,553 mt) of expected commercial black sea bass dead discards and 1.90 million pounds (863 mt) of expected recreational black sea bass dead discards in 2022 and 2023. Under the varying ABCs listed in Table 6, this method results in 3.63 million pounds (1,649 mt) of expected commercial black sea bass dead discards and 2.02 million pounds (917 mt) of expected recreational black sea bass dead discards in 2022 and 3.21 million pounds (1,456 mt) of expected commercial black sea bass dead discards and 1.79 million pounds (810 mt) of expected recreational black sea bass dead discards in 2023. These values were used to calculate the ACLs, ACTs, commercial quotas, and RHLs listed in the following sections and in Table 1.



**Figure 4:** Commercial black sea bass landing and dead discards in millions of pounds, 2011-2019. Source: 2021 management track assessment.



**Figure 5:** Recreational black sea bass landing and dead discards in millions of pounds, 2011-2019. Source: 2021 management track assessment.

### ***Recreational and Commercial ACLs***

Based on the allocation percentages defined in the FMP, 49% of the total allowable landings (i.e., the proportion of the ABC that is expected to be landed as opposed to discarded) are allocated to the commercial fishery and 51% to the recreational fishery. These allocations are combined with expected commercial and recreational dead discards to calculate sector-specific ACLs.

The 49% commercial/51% recreational landings-based allocation was implemented through Amendment 9 (1996) and first came into effect in 1998. This allocation was based on the proportions of commercial and recreational landings during 1983-1992. These allocation percentages do not reflect the current understanding of the proportion of catch and landings from the commercial and recreational sectors, in large part due to recent major changes in how the recreational harvest estimates are calculated. The Council and Board are developing an FMP amendment to consider changes to these allocations, with final action expected in December 2021. Any changes to these allocations cannot be implemented for the 2022 catch and landings limits. If changes to these allocations are approved, this may result in modifications to the 2023

catch and landings limits. Because final action on this amendment has not yet taken place, staff recommend setting 2022-2023 specifications based on the current commercial/recreational allocation and revising the 2023 specifications in 2022 if necessary based on any approved changes to the allocations.

The staff recommendations described above for ABC projections and discard calculations result in a commercial ACL of 9.51 million pounds (4,316 mt) and a recreational ACL of 8.25 million pounds (3,740 mt) in 2022 and 2023 under the averaged ABC approach. Under the varying ABC approach, they result in a 2022 commercial ACL of 10.10 million pounds (4,583 mt), a 2022 recreational ACL of 8.76 million pounds (3,972 mt), a 2023 commercial ACL of 8.93 million pounds (4,048 mt), and a 2023 recreational ACL of 7.74 million pounds (3,509 mt; Table 1).

### ***Recreational and Commercial ACTs***

ACTs are set less than or equal to the sector-specific ACLs to account for management uncertainty (Figure 5). Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g., due to late reporting, underreporting, and/or misreporting of landings or discards) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels). The Monitoring Committee considers all relevant sources of management uncertainty in the black sea bass fishery when recommending ACTs.

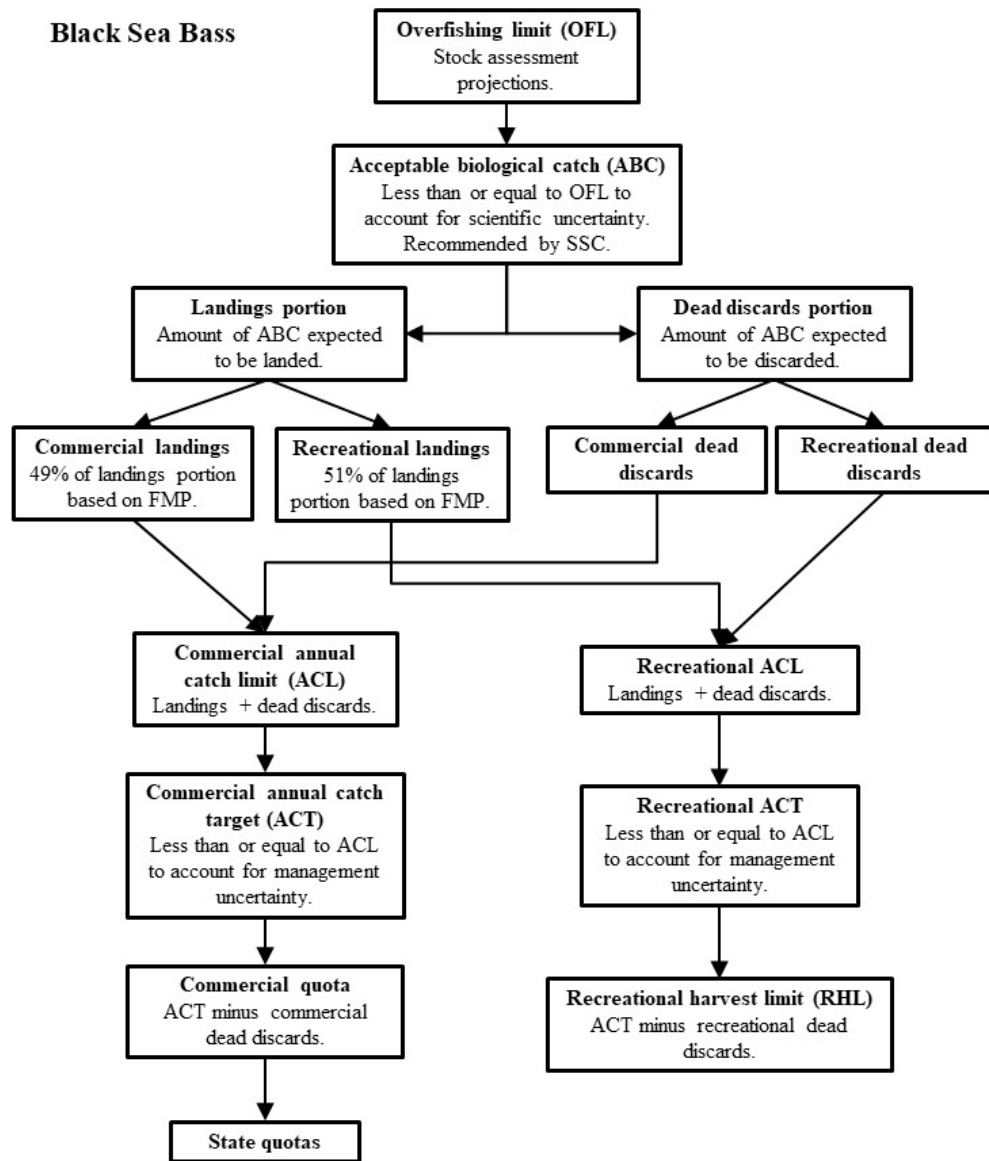
Commercial landings are typically very close to the commercial quotas (Table 2). The commercial quota monitoring system is timely and generally successful in constraining landings to the quota. Recreational landings compared to the RHL are much more variable (Table 2). Recreational harvest is estimated through a statistical survey design (i.e., the MRIP program), as opposed to mandatory vessel and dealer reporting in the commercial fishery which is more of a census of the entire commercial fishery. The commercial fisheries are also mostly limited access (with some exceptions at the state level) and the commercial fisheries can be closed in-season when landings approach the quota. The recreational fisheries for these species are all open access and there is no in-season closure authority due to the timing of recreational data availability. For these reasons, recreational landings can be more difficult to constrain and predict than commercial landings.

When considering the scale of the RHL overages and underages shown in Table 2, it is important to note that the RHL was not set based on a peer reviewed and accepted stock assessment until 2017. The 2016 RHL was likely lower than it would have been had an approved stock assessment been available to set catch and landings limits that were reflective of biomass levels at that time. In addition, as previously described, the notable RHL overage in 2020 was the result of the Council and Board leaving the bag, size, and season limits unchanged despite an expected overage. They recommended this as a short-term approach to prevent major negative impacts to the recreational sector while further considering how management may need to adapt to the revised MRIP data (e.g., through the ongoing Commercial/Recreational Allocation Amendment) and other improvements to recreational fisheries management under consideration through the Recreational Reform Initiative.

The goal of the Recreational Reform Initiative is to provide more stability in the recreational bag, size, and season limits from year to year, greater flexibility in the management process, and recreational accessibility aligned with availability. Specific changes could include greater consideration of stock status when setting recreational management measures, better addressing

uncertainty in the MRIP data when setting measures, and other changes. This is an ongoing effort.

Consistent with previous Monitoring Committee, Council, and Board recommendations, staff recommend no reduction from the 2020-2021 recreational or commercial ACLs to account for management uncertainty, such that each sector’s ACT is set equal to the ACL.



**Figure 6:** Flowchart for black sea bass catch and landings limits.

### ***Commercial Quotas and Recreational Harvest Limits***

Expected dead discards in each sector are subtracted from the sector-specific ACTs to derive annual commercial quotas and RHLs. The staff recommendation for calculating dead discards is described above.

Based on the recommendations outlined in this memo, the averaged ABC approach would result in a commercial quota of 6.09 million pounds (2,763 mt) and an RHL of 6.34 million pounds (2,877 mt) in both 2022 and 2023, virtually identical to the commercial quota and RHL implemented in 2021.

The varying ABC approach would result in a commercial quota of 6.47 million pounds (2,934 mt) and an RHL of 6.74 million pounds (3,055 mt) in 2022, about 6% higher than the commercial quota and RHL implemented in 2021. The varying ABC approach would result in a commercial quota of 5.71 million pounds (2,592 mt) and an RHL of 5.95 million pounds (2,699 mt) in 2023, about 11% lower than what would be in place for 2022.

### ***Commercial Gear Regulations and Minimum Fish Size***

Amendment 9 (1996) established a minimum fish size of 9 inches total length. The commercial minimum fish size was increased to 10 inches in 1998, and to 11 inches in 2002. The 11-inch minimum size has remained unchanged since 2002.

Amendment 9 also established gear regulations that became effective in December 1996 and were modified in 1998 and again in 2002. Current regulations, unchanged since 2002, state that trawl vessels whose owners have a black sea bass moratorium permit and possess 500 pounds or more of black sea bass from January 1 through March 31, or 100 pounds or more from April 1 through December 31, must fish with nets that have a minimum mesh size of 4.5-inch diamond mesh throughout the codend for at least 75 continuous meshes forward of the terminus of the net. For codends with less than 75 meshes, the entire net must have a minimum mesh size of 4.5-inch diamond mesh.

The Council and Commission adopted modifications to the circle vent size in black sea bass pots/traps, effective in 2007, based on the findings of a Council and Commission sponsored workshop. The minimum circle vent size requirements for black sea bass pots/traps were increased from 2.375 inches to 2.5 inches. The requirements of 1.375 inches x 5.75 inches for rectangular vents and 2 inches for square vents remained unchanged. In addition, two vents are required in the parlor portion of the pot/trap.

In the fall of 2015, the Monitoring Committee conducted a thorough review of the commercial management measures which can be modified through specifications.<sup>11</sup> This review indicated that further exploration of potential modifications to some measures may be justified. Specifically, for black sea bass, this included assessing the feasibility of a common trawl minimum mesh size with summer flounder and scup. Stemming from this discussion, the Council funded a project which analyzed the selectivity of multiple codend mesh sizes relative to retention of these three species in the commercial bottom trawl fisheries. Results confirmed that the current minimum mesh sizes for all three species are effective at releasing most fish smaller than the commercial minimum sizes (i.e., 14 inches total length for summer flounder, 9 inches total length for scup, and 11 inches total length for black sea bass). The study was not able to identify a common mesh size for all three species that would be effective at minimizing discards

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<sup>11</sup> The summary report is available at: [http://www.mafmc.org/s/Tab11\\_SF-S-BSB-Commercial-Measures.pdf](http://www.mafmc.org/s/Tab11_SF-S-BSB-Commercial-Measures.pdf).

under the current minimum fish size limits. However, the authors concluded that a common mesh size of 4.5 or 5 inches diamond for scup and black sea bass would be effective at releasing undersized fish.<sup>12</sup>

The Monitoring Committee reviewed the results of this study in 2018 and recommended no changes to the commercial minimum mesh sizes for 2019. They recommended clarification of the Council's objectives regarding consideration the mesh sizes (e.g., establishing a common minimum mesh size, minimizing discards, and/or maintaining or increasing catches of legal-sized fish). A few advisors have requested continued consideration of a standardized minimum mesh size across two or more of the species.

Staff will continue to work with the Monitoring Committee and Advisory Panel to further analyze and consider potential changes to mesh size regulations. However, given other workload constraints, it is not likely that additional work on this topic can be done in 2021. At this time, staff recommend no changes to the black sea bass commercial gear regulations for 2022.

### ***Recreational Management Measures***

Starting in 2018, the Council and Commission have provided states the opportunity to open their recreational black sea bass fisheries during the month of February under specific conditions. States must opt into this fishery. Participating states are required to have a 12.5 inch minimum fish size limit and a 15 fish possession limit during February (identical to the federal recreational measures during May 15 - December 31). Participating states are required to adjust their recreational management measures during the rest of the year to account for expected February harvest to help ensure that the participation in this optional opening does not increase the total annual harvest. Expected February harvest by state is pre-defined based on an analysis of vessel trip report data from federally permitted for-hire vessels in February 2013, the last year that the recreational fishery was open in February prior to 2018. Staff recommend no changes to this program for 2022. If the Council and Board desire changes to the February recreational opening, they should recommend those changes in August 2021 to allow time for any necessary rule making to implement the changes.

The recreational bag, size, and season limits for March - December 2022 will be considered in late 2021 after the first four waves (i.e., January - August) of preliminary 2021 recreational harvest data are available (expected October 2021). The Monitoring Committee will meet in November 2021 to review these data and make recommendations regarding any necessary changes in the recreational possession limits, minimum sizes, and seasons.

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<sup>12</sup> Hasbrouck, E., S. Curatolo-Wagemann, T. Froelich, K. Gerbino, D. Kuehn, P. Sullivan, J. Knight. 2018. Determining Selectivity and Optimum Mesh Size to Harvest Three Commercially Important Mid-Atlantic Species - A Report to the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission. Available at: [http://www.mafmc.org/s/Tab08\\_SFSBSB-Mesh-Selectivity-Study-Apr2018.pdf](http://www.mafmc.org/s/Tab08_SFSBSB-Mesh-Selectivity-Study-Apr2018.pdf)



## A: Black Sea Bass Operational Assessment for 2021

National Marine Fisheries Service  
Northeast Fisheries Science Center  
166 Water St.  
Woods Hole, MA 02543

**State of Stock:** This assessment of black sea bass (*Centropristis striata*) is an update through 2019 of commercial and recreational catch data, research survey and fishery-dependent indices of abundance, and the analyses of those data. The black sea bass stock was not overfished and overfishing was not occurring in 2019 relative to the updated biological reference points (Figure A1). Spawning stock biomass (retro adjusted SSB) was estimated to be 29,769 mt in 2019, about 2.1 times the updated biomass target reference point  $SSB_{MSY} \text{ proxy} = SSB_{40\%} = 14,441$  mt (Table A1, Figure A2). There is a 90% chance that SSB in 2019 was between 23,002 and 38,216 mt. Fishing mortality on the fully selected ages 6-7 fish was 0.39 in 2019 after adjusting for retrospective biases, which was 85% of the updated fishing mortality threshold reference point  $F_{MSY} \text{ proxy} = F_{40\%} = 0.46$  (Table A1, Figure A3). There is a 90% probability that the fishing mortality rate in 2019 was between 0.30 and 0.53. The average recruitment from 1989 to 2018 is 39 million fish at age 1. The 2011 year class was estimated to be the largest in the time series at 170.4 million fish and the 2015 year class was the second largest at 93.8 million fish. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 14.9 million, well below average. The 2018 year class at age 1 in 2019 was estimated at 46.2 million and 79.4 million with retro adjustment (Table A1, Figures A2 & A4). The 2019 model estimates of F and SSB adjusted for internal retrospective error are outside the model estimate 90% confidence intervals and so the terminal year estimates have been adjusted for stock status determination and projections (Figure A1).

**OFL Projections:** Projections using the 2021 Operational Assessment ASAP model (data through 2019) were made to estimate the OFL catches for 2022-2023. The projections assume the 2020 catch at the ABC plus an adjustment for actual 2020 recreational landings. Catch in 2021 is assumed as the ABC. Incoming recruitment was sampled from the estimated recruitment for 1989-2019. The OFL projection for combined regions uses  $F_{2022-F_{2023}} = \text{updated } F_{MSY} \text{ proxy} = F_{40\%} = 0.46$  (north) and 0.45 (south). The OFL catches are 9,383 mt in 2022 (CV =19%) and 8,014 mt in 2021 (CV =17%).

OFL for 2022-2023  
Catches and SSB in metric tons

Year	Total Catch	F	SSB
2020	8,271	0.33	26,385
2021	6,835	0.29	26,256
2022	9,383	0.46	24,096
2023	8,014	0.46	20,166

**Catch:** Reported 2019 commercial landings were 1,579 mt = 3.482 million lbs. Estimated 2019 recreational landings were 3,914 mt = 8.630 million lbs. Total commercial and recreational landings in

2019 were 5,493 mt = 12.112 million lbs. Estimated 2019 commercial discards were 1,027 mt = 2.265 million lbs. Estimated 2019 recreational discards were 1,468 mt = 3.237 million lbs. The estimated total catch in 2019 was 7,988 mt = 17.614 million lbs. (Catch and Status Table below; Table A2).

**Catch and Status Table: Black Sea Bass**  
(Weights in mt, recruitment in millions, arithmetic means, includes New MRIP estimates)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Commercial landings	751	765	782	1,027	1,088	1,113	1,133	1,808	1,514	1,579
Commercial discards <sup>2</sup>	134	227	116	278	459	423	757	1,027	722	1,027
Recreational landings	3,502	1,421	3,162	2,685	3,510	4,448	6,131	5,692	4,008	3,914
Recreational discards <sup>2</sup>	733	358	1,048	749	839	985	1,391	1,634	1,033	1,468
Catch used in assessment	5,121	2,771	5,108	4,739	5,896	6,969	9,412	10,162	7,277	7,988
Spawning stock biomass	14,596	14,347	17,114	25,834	39,577	39,137	36,315	30,687	27,298	18,716
Recruitment (age 1, millions)	35.8	42.8	170.4	54.8	30.6	39.6	93.8	51.2	14.9	46.2
F full <sup>3</sup>	0.73	0.41	0.57	0.53	0.39	0.30	0.31	0.45	0.34	0.47

<sup>1</sup> Years 1989-2019

<sup>2</sup> dead discards

<sup>3</sup> F on fully selected ages 6-7. Note that table values are not retro adjusted.

Year	Min <sup>1</sup>	Max <sup>1</sup>	Avg <sup>1</sup>
Commercial landings	523	1,808	1,177
Commercial discards <sup>2</sup>	10	1,027	239
Recreational landings	681	6,131	2,448
Recreational discards <sup>2</sup>	99	1,634	626
Catch used in assessment	2,263	10,162	4,491
Spawning stock biomass	3,116	41,121	13,233
Recruitment (age 1, millions)	10.1	167.4	38.8
F full <sup>3</sup>	0.30	1.15	0.65

<sup>1</sup> Years 1989-2019

<sup>2</sup> dead discards

<sup>3</sup> Average F on fully selected ages 6-7.

Note that table values are not retro adjusted.

## Stock Distribution and Identification

The Mid-Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plan for black sea bass defines the management unit as all black sea bass from Cape Hatteras, North Carolina northeast to the US-Canada border (MAFMC 1999). The stock was partitioned into two sub-units to account for spatial differences in the assessment model. The sub-units are not considered to be separate stocks.

**Assessment Model:** The assessment models (separate north and south models) for black sea bass is a complex statistical catch-at-age model (ASAP SCAA; Legault and Restrepo 1998; NFT 2013) incorporating a broad range of fishery and survey data (NEFSC 2017). The model assumes an instantaneous natural mortality rate ( $M$ ) = 0.4. The fishery catch in each region is modeled as two fleets:

trawl catch and non-trawl catch, which includes recreational landings, recreational discards, commercial fish pot and hand-line catch and catches from other non-trawl sources.

Indices of stock abundance for the north region used in the model were from NEFSC Albatross spring, MA DMF spring trawl, RI DFW spring trawl, CT DEEP spring Long Island trawl, New York DEC juvenile seine, NEFSC Bigelow spring, NEAMAP spring bottom trawl and MRIP catch per angler trip. The indices of abundance for the southern region were from NEFSC Albatross winter, NEFSC Albatross spring, New Jersey DEP spring trawl, DE DFW spring trawl, MD DNR spring coastal bays trawl, VIMS Chesapeake Bay juvenile trawl, NEAMAP spring trawl, NEFSC Bigelow spring trawl and MRIP catch per angler trip. Indices for both regions were comparable to those used in the 2016 benchmark assessment.

There remains a significant retrospective pattern in both the northern and southern assessment models. The retrospective pattern in the north over-estimates  $F$  by 62% over the last 5 terminal years and under-estimates  $SSB$  by 46%. In the southern region, the opposite pattern prevails where  $F$  is underestimated by 16% and  $SSB$  is over-estimated by 16%. The 2019 regional model estimates of average  $F$  and  $SSB$  were adjusted for internal retrospective error (north  $F$  (0.56) adjusted for retrospective = 0.34, north  $SSB$  (13,438 mt) adjusted for retrospective = 24,968 mt; south  $F$  (0.41) adjusted for retrospective = 0.48, south  $SSB$  (5,323 mt) adjusted for retrospective = 4,608 mt). Since the retrospective corrected values generally fell outside the 90% confidence intervals of the terminal year estimates, the retrospective adjusted values were used for status determination and OFL's. The historical retrospective analysis (comparison between assessments) indicates that the trends in spawning stock biomass, recruitment and fishing mortality have been consistent between the benchmark assessment (2016) and the 2021 update.

**Biological Reference Points (BRPs):** Reference points were calculated using the non-parametric yield and  $SSB$  per recruit long-term projection approach. The cumulative distribution function of the 2000-2019 recruitments (equivalent to years used in 2016 benchmark assessment) was re-sampled to provide future recruitment estimates for the projections used to estimate the biomass reference point.

The existing biological reference points for black sea bass are from the 2019 Operational Assessment. The reference points are  $F_{40\%}$  as the proxy for  $F_{MSY}$ , and the corresponding  $SSB_{40\%}$  as the proxy for the  $SSB_{MSY}$  biomass target. The  $F_{40\%}$  proxy for  $F_{MSY} = 0.46$ ; the proxy estimate for  $SSB_{MSY} = SSB_{40\%} = 14,092$  mt = 31.067 million lbs; the proxy estimate for the  $\frac{1}{2} SSB_{MSY}$  biomass threshold =  $\frac{1}{2} SSB_{40\%} = 7,046$  mt = 15.534 million lbs; and the proxy estimate for  $MSY = MSY_{40\%} = 4,773$  mt = 10.522 million lbs.

The  $F_{40\%}$  and corresponding  $SSB_{40\%}$  proxy biological reference points for black sea bass were updated for this 2021 Operational Assessment. The update fishing mortality threshold  $F_{40\%}$  proxy for  $F_{MSY} = 0.46$ . The updated biomass target proxy estimate for  $SSB_{MSY} = SSB_{40\%} = 14,441$  mt = 31.837 million lbs. and the updated biomass threshold proxy estimate for  $\frac{1}{2} SSB_{MSY} = \frac{1}{2} SSB_{40\%} = 7,221$  mt = 15.919 million lbs. The update proxy estimate for  $MSY = MSY_{40\%} = 5,334$  mt = 11.760 million lbs.

### **Qualitative status description:**

The distribution of the fishery and catches has shifted north over the past decade. Most survey aggregate

biomass indices are near their time series high. Recent survey indices suggest the recruitment of a large 2011 year class in the northern region and a strong 2015 year class in both regions. The 2017 cohort was well below average while the 2018 cohort is above average. Modest total catches over the past few years would indicate that current mortality from all sources is lower than recent recruitment inputs to the stock, which has resulted in a spawning biomass that is well above the management target.

### **Research and Data Issues:**

The recent recruitment of large year classes in the assessment time series (the 2011 and 2015 year class) has contributed to increases in catch, particularly in the northern region. Additional research examining recruitment events, distribution shifts and the changing environment should be explored.

Spatial differences in recruitment and fisheries have been accounted for with independent assessment models for north and south regions. A single model which tracks the spatial differences in the population dynamics should be developed.

Allocation issues continue to be an important management issue. Development of a Management Strategy Evaluation (MSE) model could be helpful in determining the best approach.

### **References:**

- Legault CM, Restrepo VR. 1998. A flexible forward age-structured assessment program. ICCAT. Col. Vol. Sci. Pap. 49:246-253.
- Mid-Atlantic Fishery Management Council. (MAFMC). 1999. Amendment 12 to the summer flounder, scup, and black sea bass fishery management plan. Dover, DE. 398 p + appendix.
- Northeast Fisheries Science Center (NEFSC). 2017. 62<sup>th</sup> Northeast Regional Stock Assessment Workshop (62<sup>th</sup> SAW) Assessment Report. US Dept Commerce, Northeast Fish Sci Cent Ref Doc. 17-03; 822 p.
- NOAA Fisheries Toolbox (NFT). 2013. Age Structured Assessment Program (ASAP) version 3.0.11. (Internet address: <http://nft.nefsc.noaa.gov>).

Table A1. Summary Black Sea Bass assessment results; Spawning Stock Biomass (SSB) in metric tons (mt); Recruitment (R) at age 1 in millions; Fishing Mortality (F) for age of peak fishery selection, ages 6-7. North-South averages, unadjusted for retrospective bias.

	SSB	R	F
1989	2,787	24,489	1.14
1990	2,399	29,922	1.08
1991	2,525	34,458	1.01
1992	2,857	29,266	0.92
1993	2,883	20,098	1.05
1994	2,841	28,754	0.84
1995	3,252	36,967	0.72
1996	3,576	26,625	0.92
1997	3,439	27,269	0.84
1998	4,039	23,149	0.60
1999	5,000	37,771	0.54
2000	6,657	47,726	0.54
2001	8,059	27,700	0.63
2002	9,023	32,088	0.65
2003	8,548	19,804	0.57
2004	7,659	15,685	0.57
2005	7,095	16,988	0.51
2006	6,064	31,800	0.54
2007	6,427	35,909	0.55
2008	8,810	46,010	0.48
2009	10,900	36,055	0.65
2010	13,887	35,934	0.73
2011	14,347	42,838	0.40
2012	17,114	170,362	0.58
2013	25,834	54,782	0.54
2014	39,577	30,553	0.40
2015	39,137	39,629	0.30
2016	36,315	93,799	0.33
2017	30,687	51,186	0.51
2018	27,298	14,872	0.36
2019	18,716	46,198	0.48

Table A2. Total catch (metric tons) of black sea bass from Maine through North Carolina. Includes the ‘New’ MRIP estimates of recreational catch. Recreational discards assume 15% mortality.

	Commercial Landings	Commercial Discards	Recreational Landings	Recreational Discards	Total
1989	1,105	109	1,881	99	3,194
1990	1,402	53	1,354	231	3,040
1991	1,190	10	1,766	175	3,142
1992	1,264	141	1,344	165	2,914
1993	1,353	78	2,022	120	3,573
1994	848	37	1,347	210	2,443
1995	889	24	1,860	397	3,171
1996	1,448	285	2,755	236	4,724
1997	1,197	55	2,470	251	3,973
1998	1,152	121	681	310	2,263
1999	1,290	45	856	545	2,736
2000	1,186	44	1,836	873	3,939
2001	1,279	240	2,621	886	5,025
2002	1,564	46	2,528	1,381	5,518
2003	1,347	114	2,492	641	4,595
2004	1,405	380	1,362	374	3,521
2005	1,297	89	1,437	350	3,173
2006	1,285	33	1,243	371	2,933
2007	1,037	104	1,425	354	2,920
2008	875	66	1,606	585	3,132
2009	523	167	2,525	623	3,838
2010	751	134	3,502	733	5,121
2011	765	227	1,421	358	2,771
2012	782	116	3,162	1,048	5,108
2013	1,027	278	2,685	749	4,739
2014	1,088	459	3,510	839	5,896
2015	1,113	423	4,448	985	6,969
2016	1,133	757	6,131	1,391	9,412
2017	1,808	1,027	5,692	1,634	10,162
2018	1,514	722	4,008	1,033	7,277
2019	1,579	1,027	3,914	1,468	7,988

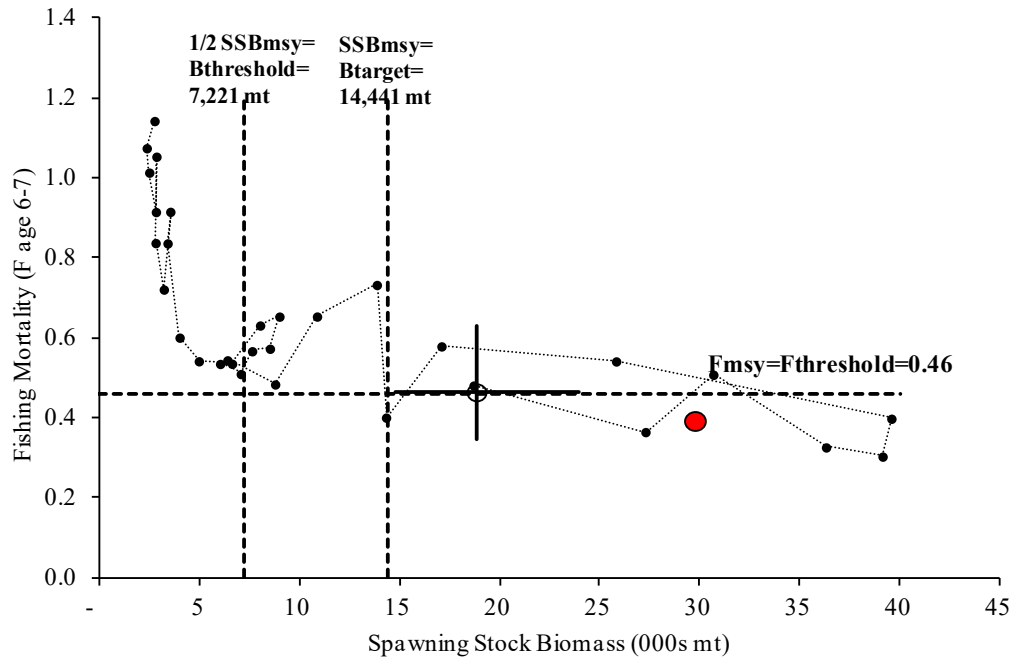


Figure A1. Estimates of black sea bass spawning stock biomass (SSB) and fully-recruited fishing mortality (F, peak at ages 6-7) relative to the updated 2021 biological reference points. Open circle with 90% confidence intervals shows the assessment point estimates. The filled circle shows the retrospectively adjusted estimates.

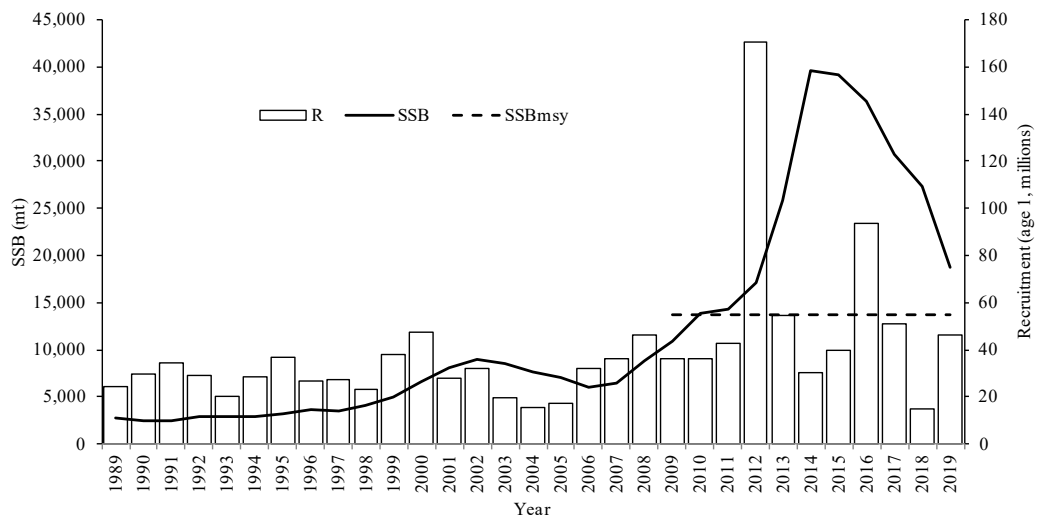


Figure A2. Black sea bass spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the updated  $SSB_{MSY}$  proxy =  $SSB_{40\%}$  = 14,441 mt.

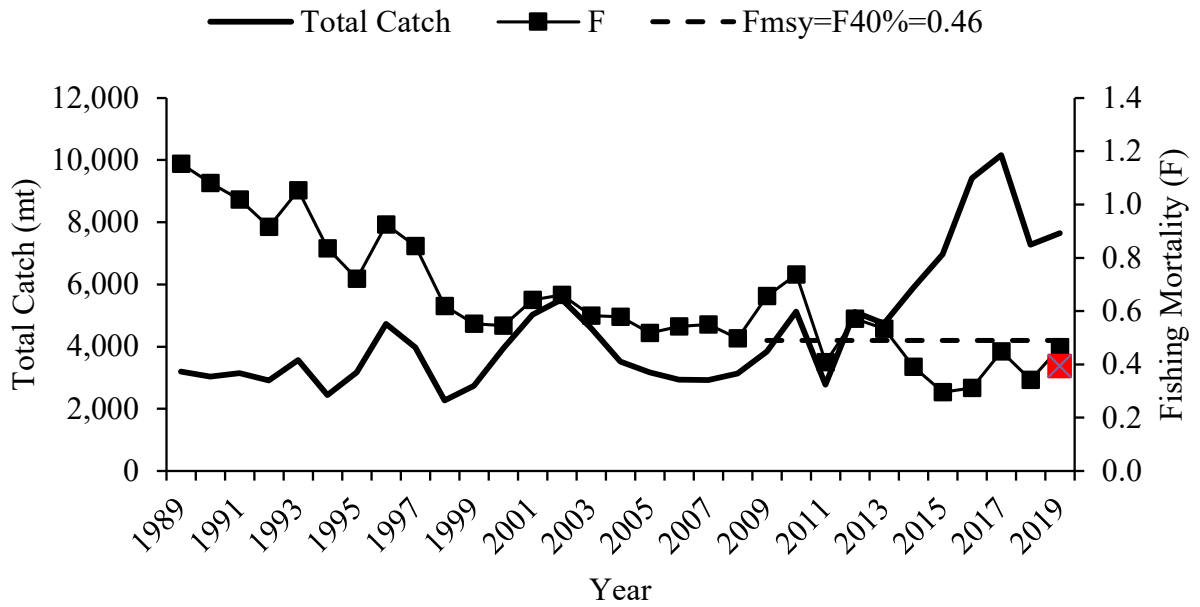


Figure A3. Total fishery catch (metric tons; mt; solid line) and fishing mortality (F, peak at age 6-7; squares) for black sea bass. The horizontal dashed line is the updated  $F_{MSY}$  proxy =  $F_{40\%} = 0.46$ .

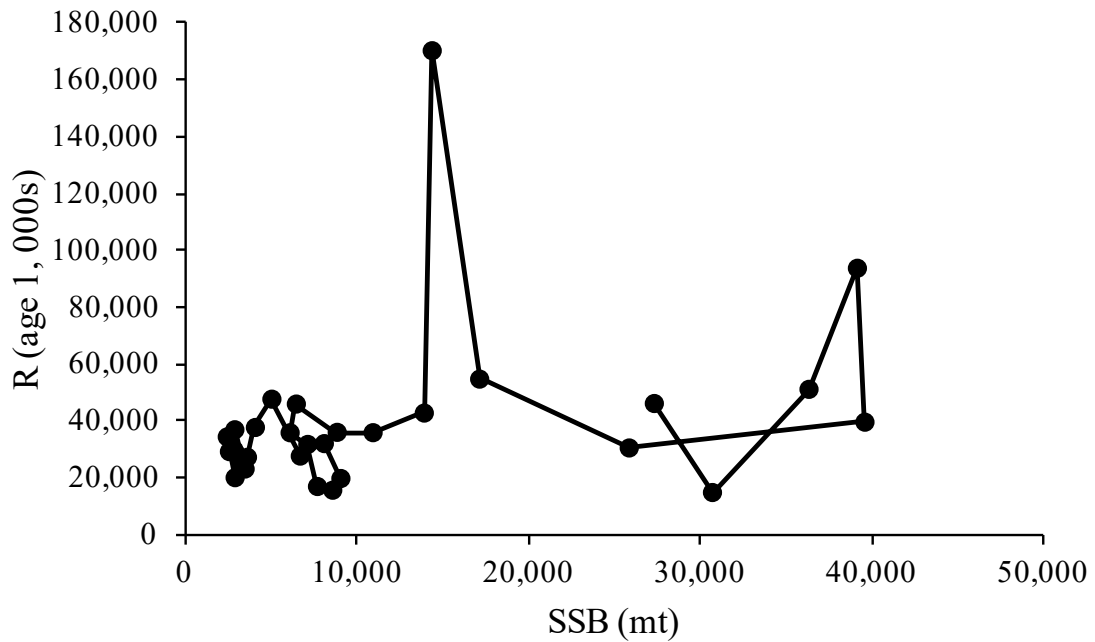


Figure A4. Spawning Stock Biomass (SSB) and Recruitment (R) scatter plot for black sea bass.



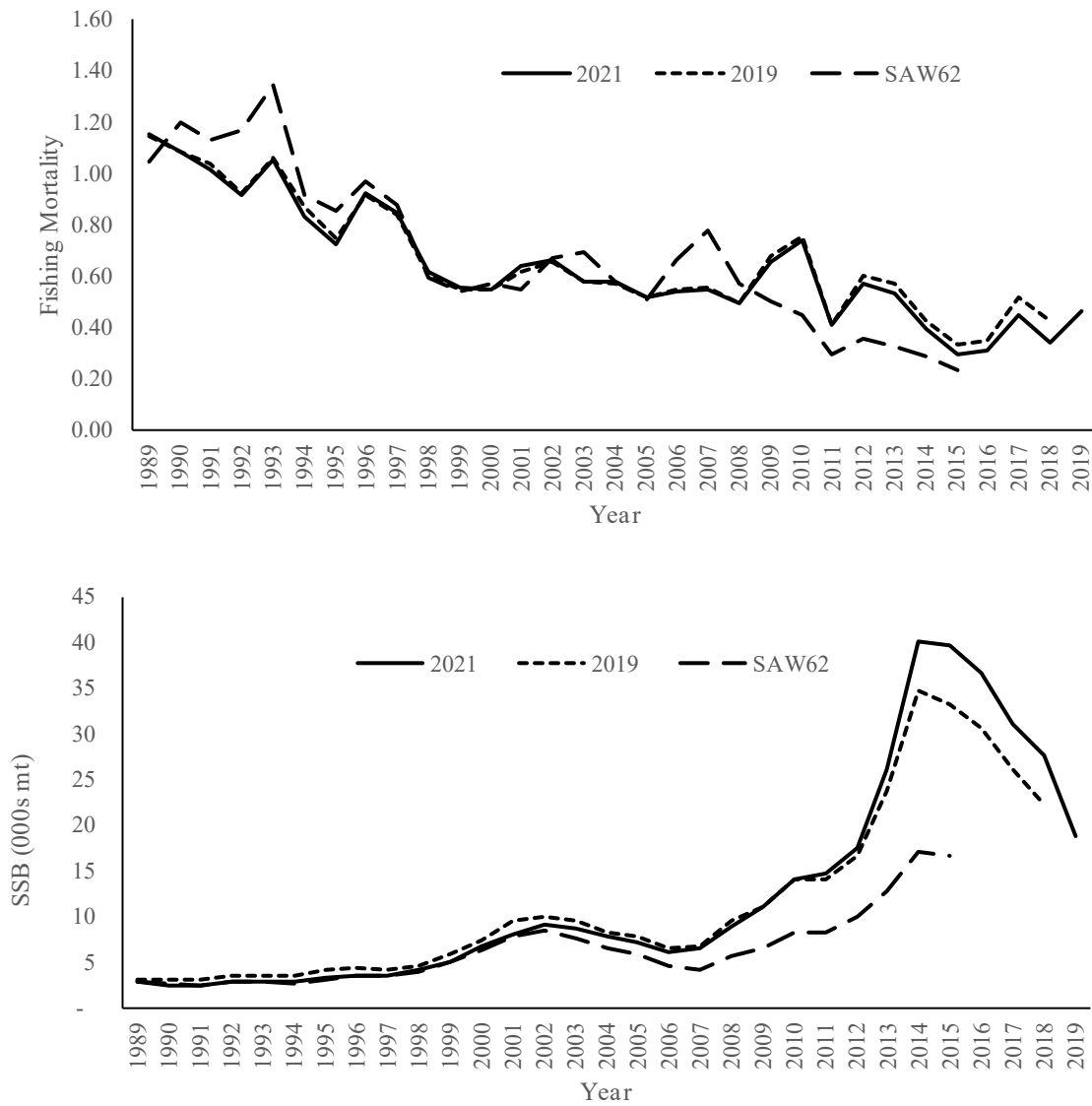


Figure A5. Historical retrospective of the 2016 (SAW 62; NEFSC 2017), 2019 and 2021 (Operational Assessment) stock assessments of black sea bass. The heavy solid lines are the 2021 Operational Assessment estimates. SAW62 did not include revised MRIP estimates.



## **Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report June 2021**

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel (AP) met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass AP on June 21, 2021 to review the Fishery Information Documents and develop the following Fishery Performance Report for the three species. The primary purpose of this report is to contextualize catch histories for the Scientific and Statistical Committee (SSC) by providing information about fishing effort, market trends, environmental changes, and other factors.

Please note: Advisor comments described below are not necessarily consensus or majority statements.

Additional comments provided by advisors via email are attached to this document.

**Council Advisory Panel members present:** Carl Benson (NJ), Joan Berko (NJ), Bonnie Brady (NY), Jeff Deem (VA), Skip Feller (VA), James Fletcher (NC), Hank Lackner (NY), Mike Plaia (CT), Bob Pride (VA), Doug Zemeckis (NJ)

**Commission Advisory Panel members present:** Marc Hoffman (NY), Mike Plaia (RI)

**Others present:** Chris Batsavage (Council/Board member, NC DMF), Julia Beaty (MAFMC Staff), John Boreman (SSC), Dustin Colson Leaning (ASMFC Staff), Karson Coutré (MAFMC Staff), Kiley Dancy (MAFMC Staff), Savannah Lewis (ASMFC Staff), Tony DiLernia (Council member), Steve Doctor (MD DNR), Emily Keiley (NMFS GARFO), Paul Rago (SSC Chair), Angel Willey (MD DNR)

### **Discussion questions**

1. What factors influenced recent catch (markets/economy, environment, regulations, other factors)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

## **General Comments**

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### ***Recreational Data Concerns***

A few advisors expressed concern with the Marine Recreational Information Program (MRIP) data, which they see as inaccurate and fundamentally flawed. One advisor said the entire program needs an overhaul. Another advisor said he has been following the development of National Marine Fisheries Service (NMFS) recreational data collection programs for over 30 years and has not seen any notable improvement in the estimates over that time. He believes the problem with MRIP lies in sample sizes that are too small, as well as extrapolation of interviews that tend to be biased toward people who catch more fish. He suggested that more creative management approaches that do not rely so heavily on flawed data are needed for the recreational fishery.

Another advisor added that an accurate count of all saltwater recreational anglers is needed to comply with the Magnuson Stevens Act and to better manage recreational fisheries for all species.

Several advisors expressed concerns with the 2020 recreational catch estimates that were developed by MRIP using imputation methods to account for COVID-19 related data gaps in 2020. Several advisors asked about the percent standard errors (PSEs) for these estimates and said they would expect the uncertainty associated with these estimates to be much higher than normal. Others noted concerns with using recreational data from 2018 and 2019 in the imputation methods. For example, one advisor said recreational fishing trends were tremendously different in these years which may create biases in the 2020 estimates. Generally, advisors expressed concern about using these estimates in fishery performance evaluation and development of management measures without additional scrutiny.

### ***COVID-19 Impacts***

As described in more detail in the species-specific sections below, multiple advisors agreed that the COVID-19 pandemic had major impacts on commercial and recreational fishing effort in 2020. Advisors generally agreed that the pandemic had negative impacts on commercial markets and prices. However, they described a range of different impacts on recreational fisheries, as described below.

### ***Environmental Conditions***

One advisor said that since additional restrictions have been put on the menhaden fishery, there are more sharks inshore due to an overabundance of menhaden. He believes the increased abundance of sharks may be impacting other species, for example by chasing bluefish and striped bass offshore. He questioned what additional impacts sharks are having on managed species such as black sea bass and summer flounder. He also noted that while the Council is attempting to focus more on ecosystem based management approaches, predator/prey dynamics are not properly factored into current catch estimate data.

One advisor said the Council and Board need to address chemicals in the water, such as surfactants, that may negatively impact fish populations.

### ***Management Issues***

One advisor recommended further research into a common commercial minimum mesh size for summer flounder, scup, and black sea bass.

## **Summer Flounder**

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### ***Market/Economic Conditions and COVID-19 Impacts on Commercial Fishing Effort***

Many advisors agreed that COVID-19 had major impacts on commercial and recreational summer flounder fisheries in 2020. A few advisors said commercial effort was notably down for many summer flounder vessels in 2020 as lower market prices did not justify fuel and other trip costs. Restaurant closures had a big impact on markets and prices for summer flounder. Some vessels did not fish for most or all of the year, including one advisor who said that although he holds a commercial permit, he did not fish commercially due to low prices. One advisor said some vessels were having difficulty getting crews to work. Another advisor agreed and said he's heard that reliable crew is difficult to find in some circumstances given stimulus payments and increased unemployment benefits.

One advisor noted that the commercial size limit and other regulations have increased the size of landed fish to the point where the market for smaller fish has been lost to imports. There is not as much of a market for larger fish, as the filets are too big for single servings. This advisor supported lowering the commercial minimum size below 14 inches to allow targeting of smaller fish, and also supported evaluating a change in the minimum mesh size requirement to 5 inches.

### ***Recreational Fishery***

Advisors provided mixed comments on recreational effort and catch in 2020. One advisor said all marinas he talked to had seen reduced participation in the recreational fisheries, yet the MRIP data showed an increase in catch. He felt that these data did not match up with reality. Another advisor said the charter industry in Virginia was shut down for a good part of the season, and while he has heard managers say private boat fishery effort was up in 2020, he did not see that in his observations. People were more worried about taking care of their families and had economic concerns that limited private boat effort. He agreed that some of the MRIP data do not seem to match with reality. However, another advisor noted that overall recreational effort (for all species) seemed to be much higher than normal in 2020.

### ***Environmental Conditions and General Fishing Trends***

One advisor said summer flounder fishing was "off" last year and a lot of commercial and recreational fishermen were not targeting them or were catching very few. He said summer flounder came in late in the season, showing up in August instead of April or May, which is more typical. He noted that this could be due to the increased presence of sharks keeping fish offshore, as discussed in the "General Comments" section above.

### ***Management Issues***

For summer flounder in particular, one advisor noted concerns with the 2020 MRIP estimates using imputed 2018-2019 data given that 2018 and 2019 were "boom years" and 2020 was a "bust year" for summer flounder. He expressed frustration that MRIP does not seem to recognize mistakes in their calculations and that, in his view, the resulting estimates appear to be impossible.

One advisor asked whether commercial dead discards were primarily caused by regulatory discards and if so, if those discards were counted against the catch limits despite being unavoidable for the fishing vessel. Staff clarified that many, but not all, discards are regulatory and that all estimated summer flounder dead discards are counted against the annual catch limit. This same advisor also expressed frustration that managers have not seriously considered his proposal for a

recreational total length limit for summer flounder (i.e., a cumulative length limit where anglers can keep up to a specified total number of inches of fish) with mandatory retention of all fish caught until the length limit is reached.

## **Scup**

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### ***Management Issues***

Before the AP meeting, an industry representative from Lund's Fisheries requested that AP discuss the idea of increasing or removing the scup winter I quota period possession limit (currently 50,000 pounds) and decreasing the commercial minimum size from 9 inches to 8 inches.

Two advisors did not support moving to an 8 inch minimum size based on maturity concerns. One advisor added that having the minimum size closer to where the fish are 100% mature has contributed to scup's current high biomass and healthy stock status. One advisor supported decreasing the minimum size, stating that a smaller minimum size will not hurt anything and would bring smaller fish, preferred by some consumers, to the market. He added that tilapia imports have replaced market share for domestic fish due to its smaller size and requested a report on tilapia imports.

Two advisors said they did not support an increase in the winter I possession limit. One advisor said increasing the winter I possession limit would devastate New York's scup fishery because it would tank the price for the fresh fish market which many local fishermen depend on. One advisor expressed concern that an increase in the possession limit could result in vessels based in other states landing more scup in New York, especially vessels looking to shift their fishing effort from other species. This could decrease the price and negatively impact fisherman based in New York. Another advisor was also concerned that increasing the possession limit to 100,000 pounds would crash the market and added that fishermen generally do not land the full current possession limit anyway.

### ***COVID-19 Impacts on Markets and Fishing Effort***

One advisor said COVID-19 had major impacts on the scup market and prices, and therefore commercial scup landings. Another advisor said there was less recreational fishing effort due to COVID, especially on for-hire vessels as people avoided crowds. For this reason, he said the MRIP estimates of harvest do not make sense.

### ***Recreational Fishery***

One advisor reiterated comments made during the summer flounder discussion that the 2020 MRIP estimates using imputed 2018 and 2019 values are not realistic or believable. Another advisor added that after the incorporation of the new MRIP data in the assessments, 198% of the RHL was caught which is not believable because fewer people were fishing because of COVID. One advisor recommended that the same cumulative length limit approach described above for summer flounder be used in the recreational scup fishery. He suggested that this approach could first be tested for the shore-based recreational scup fishery before applying it to the entire recreational fishery.

## **Black Sea Bass**

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### ***COVID-19 Impacts on Markets and Fishing Effort***

One advisor said COVID-19 impacts on restaurants caused black sea bass prices to drop significantly and prices remain low. She added that the restaurant market for fresh fish is important in her area and prices may not rebound until restaurants recover from the pandemic impacts.

One advisor said charter boats operating in nearshore waters off Virginia Beach and Oregon Inlet had one of their best summers in 2020. He said these vessels mostly catch Spanish mackerel and bluefish, while the recreational black sea bass fishery in his area is almost entirely in federal waters. He said many trips reached full capacity and he attributed this to the COVID-19 stimulus payments. He noted that virtually all COVID-19 restrictions have been lifted in Virginia and there are minimal remaining impacts. For example, he said the for-hire industry in his area has not had a problem hiring and retaining crew members. Head boat sampling is still suspended, but captains have continued to submit vessel trip reports throughout the pandemic.

An advisor from New York said that in his area, charter boats barely fished during the spring and summer of 2020 due to COVID-19 restrictions and concerns about being around crowds. However, some charter boats began taking trips again in the fall.

### ***Recreational Fishery***

A few advisors repeated comments made earlier about their lack of faith in the MRIP data.

Although there was a recreational ACL overage in 2020, a payback will not be required due to the positive stock status of black sea bass. One advisor said this is unfair to the commercial industry as they are always required to payback quota overages, regardless of stock status.

One advisor said anglers fishing from private docks do not adhere to the black sea bass possession limit. He also said some recreational fishermen illegally sell their catch. He called for better information on the number of recreational anglers to improve the MRIP data.

One advisor said the February recreational black sea bass opening in Virginia was impacted by bad weather in 2021, but when vessels could go out, they caught a lot of black sea bass. He said December is also a good month for catching black sea bass and expressed a desire for a longer winter recreational opening.

One advisor asked how the outlier wave 1 2020 MRIP harvest estimate for black sea bass in North Carolina will be handled in the management process.

### ***Biological Issues***

One advisor claimed that most trawl surveys don't sample more than five miles from shore, yet black sea bass have been caught 100 miles from shore and farther in lobster pots. This could result in the stock assessment under-estimating biomass. He added that black sea bass are so abundant that they are wiping out shellfish populations and requested an emergency opening, including a year-round recreational possession limit of ten fish per day.

### ***Research Recommendations***

Three advisors recommended additional research on the impacts of electromagnetic fields on black sea bass. This is a concern due to the potential for thousands of miles of cables to be installed for offshore wind energy projects planned for the greater Atlantic region.

One advisor said more research is also needed on the potential impacts of pile driving (e.g., for installing wind turbine foundations) and seismic testing (used for oil and gas survey work) on fishery species. Another advisor added that impacts of sub-bottom profilers (used for site characterization for offshore wind energy projects) are also a concern.

### ***Impacts of Offshore Wind Energy Development***

One advisor said offshore wind energy development will destroy commercial fisheries and it would be preferable if wind energy projects could be placed closer inshore.

As described in the previous section, three advisors expressed concerns about electromagnetic fields on species such as black sea bass. One advisor noted that commercial fishermen purposefully fished near telecommunications cables when targeting scallops in the 1970s. They developed cable jumper gear specifically for this purpose.

One recreational fishery advisor said he has experienced great fishing for black sea bass near the two wind turbines that were installed off Virginia Beach. He's caught lots of keeper black sea bass as well as cobia and spadefish. He also observed sea turtles and lots of bait fish near the turbines. He hasn't experienced a negative impact from the cables. He said the boulders placed at the turbine foundations for scour protection have created a lot of new structured habitat in the area. However, he acknowledged that the impacts may be different for projects with more turbines compared to the two turbines where he has fished.

## **Additional Email Comments**

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**Sent:** Monday, June 21, 2021 7:02 PM  
**To:** Beaty, Julia <jbeaty@mafmc.org>  
**Subject:** AP Meeting Comments

Hi Julia:

The possibility of having to carry an observer was a big factor on the commercial BSB fishery due to COVID. Especially for potters, where if your gear is in the ocean and you are told you can't go out until you take an observer. Restaurants being closed was another factor. While there is some demand for head on fish, it isn't as much as pre-11 inch minimum size fish. They are primarily white tablecloth.

I agree with Jim Fletcher about needing research about chemicals in the water. Too much fertilizer and pesticides being applied with no controls near the bay and ocean. Also the effects of windmills and the construction of windmills. And the seismic blasting that Rutgers did in previous years to study "rock formations" scared all the fish away.

If I am still an AP advisor, meetings are always better in the afternoon, since I am usually fishing in the morning.

Joan Berko

**From:** PAUL CARUSO  
**Sent:** Friday, June 25, 2021 11:03 AM  
**To:** Dustin C. Leaning <DLeaning@asmfc.org>  
**Subject:** [External] Re: Draft Fishery Performance Report from Monday's AP mtg for your review; reminder of next mtg

Him Dustin, Sorry I could not make the call. Too many things going on here. For what its worth we had a decent BSB season last year and this spring was decent. We have virtually no rec summer flounder fishery anymore nearshore and scup seem very abundant both last season and this.

**To:** [Beaty, Julia](#)  
**Subject:** Re: Draft Fishery Performance Report from Monday's AP mtg for your review; reminder of next mtg  
**Date:** Friday, June 25, 2021 8:21:12 PM

Julia

I had trouble getting on and called in from my phone, 732 278.... I agree that summer flounder minimum size should be lowered back to 13 inches. Feeding scavengers instead of harvesting this valuable resource makes no sense. I know the argument that these fish are not mature enough to spawn, but discards don't spawn. The harvest is constrained and trading fish that are mature for immature fish seems like a smart tradeoff.

Covid 2020 should just be eliminate from all evaluation methods. I did not exist.

Carl



**From:** HANK LACKNER

**To:** Beaty, Julia; Moore, Christopher; Luisi, Michael; Kiley Dancy

**Subject:** Re: AP Meeting for Fishery Performance Reports 6/21

**Date:** Tuesday, June 29, 2021 12:47:19 PM

Hello All,

I am sorry i couldnt stay on the AP call, but the illex squid derby is running wild.

Here a few thoughts I and others have moving forward..

These are my thoughts about raising the scup limit to 100,000 pounds in winter1.

1. This big trip limit opens this fishery to a whole new class of boats..That is boats with fish pumps and way larger vessels than currently participate. With that being said:

A. We must establish a control date immediately!!

B. We must then proceed to limited entry process!!

C.The winter1 fishery has historically been driven by supply and demand.. which was the determining factor on price..The market is currently a fresh market targeting large mature fish..

A 100,000 pound trip limit will destroy the fresh market.

The quota is going to be reduced this year and the larger trip limits will only lead to even more discards.

2. An 8 in size limit is a very poor management move. It will not reduce discards..In fact it may even increase them.. Boats will specifically target smaller scup and the end result will be way more discarding..

A. The fresh market will not be able to sell a scup that small..I have been told this by several Fulton dealers..

3. The small mesh exemption line..

This line should be completely removed.. Vessel should be allowed to possess up to 1000 pounds of summer flounder with small mesh no matter where they are fishing.. When on a directed summer flounder trip with a possession limit over 1000 pounds 5(FIVE ) inch twine should be required.

It is important to remember the 72 30(small mesh line) was originated along time ago... As science now shows us, the vast majority of the summer flounder population lives east of that line..So everyone could have the exemption anyway.. Remember there were no scup GRAs back then either.

The way the fishery is now carried out, premium quality fluke get the best price..The only way to achieve that is by using big twine and catching the fluke “clean”. ( no other species mixed in) ..And it is done now with mesh bigger than 5.5 inch..most do that to avoid dogfish and sea.robblins...Summer Flounder fisherman already regulate themselves.

4. Lastly, the council should adopt one mesh size for scup seabass and fluke..5 inch will work fine..The less gear fisherman drag around the ocean the better..It will be a money saver for boat owners.. Also remember 5 in is the size of the cover bag for loligo squid..A consistent twine size will be appreciated by all fisherman..

Thank You,

Hank Lackner



## Black Sea Bass Fishery Information Document

June 2021

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for black sea bass (*Centropristis striata*) with an emphasis on 2020 (note that there are caveats associated with 2020 data due to COVID-19 related data gaps). Data sources include unpublished National Marine Fisheries Service (NMFS) commercial fish dealer reports, vessel trip reports (VTRs), permit data, as well as Marine Recreational Information Program (MRIP) data and stock assessment information. All 2020 data should be considered preliminary. For more information on black sea bass management, including previous Fishery Information Documents, please visit <http://www.mafmc.org/sf-s-bsb>.

### Key Facts

- Black sea bass are not overfished and overfishing is not occurring, according to the most recent stock assessment, which included data through 2018. Incorporation of a revised time series of MRIP data and data on the large 2015 year class both contributed to an increase in estimated stock biomass compared to the previous assessment.
- Updated stock assessment information will be available in July 2021.
- In 2020, about 4.12 million pounds of black sea bass were landed by commercial fishermen, a 19% increase from 2019. Commercial fish dealers paid an average of \$2.40 per pound of black sea bass, a 30% decrease from the 2019 average price. This decrease was likely influenced by impacts of the COVID-19 pandemic on market demand in 2020.
- Recreational fishermen harvested an estimated 9.05 million pounds of black sea bass in 2020, a 5% increase from 2019. Anglers fishing from private/rental vessels accounted for 86% of black sea bass harvest (in numbers of fish) in 2020.

### Basic Biology

Black sea bass are distributed from the Gulf of Maine through the Gulf of Mexico. Genetic studies have identified three stocks within that region. This document focuses on the stock from the Gulf of Maine through Cape Hatteras, North Carolina.

Adult and juvenile black sea bass are mostly found on the continental shelf. Young of the year (i.e., fish less than one year old) can be found in estuaries. Adults show strong site fidelity during the summer and prefer to be near structures such as rocky reefs, coral patches, cobble and rock fields, mussel beds, and shipwrecks. Black sea bass migrate to offshore wintering areas starting in the fall. During the winter, young of the year are distributed across the shelf and adults and juveniles are found near the shelf edge. During the fall, adults and juveniles off New York and north move offshore and travel along the shelf edge to as far south as Virginia. Most return to northern inshore areas by May. Black sea bass off New Jersey to Maryland travel southeast to the

shelf edge during the late fall. Black sea bass off Virginia and Maryland travel a shorter distance due east to the shelf edge, which is closer to shore than in areas to the north.<sup>1,2</sup>

Black sea bass are protogynous hermaphrodites, meaning they are born female and some later transition to males, usually around 2-5 years of age. Male black sea bass are either of the dominant or subordinate type. Dominant males are larger than subordinate males and develop a bright blue nuchal hump during the spawning season. About 25% of black sea bass are male at 15 cm (about 6 inches), with increasing proportions of males at larger sizes until about 50 cm, when about 70-80% of black sea bass are male. Results from a simulation model highlight the importance of subordinate males in spawning success. This increases the resiliency of the population to exploitation compared to other species with a more typical protogynous life history. About half of black sea bass are sexually mature by 2 years of age and 21 cm (about 8 inches) in length. Black sea bass reach a maximum size of about 60 cm (about 24 inches) and a maximum age of about 12 years.<sup>2,3</sup>

Black sea bass in the Mid-Atlantic spawn in nearshore continental shelf areas at depths of 20-50 meters. Spawning usually takes place between April and October. During the summer, adult black sea bass share habitats with tautog, hakes, conger eel, sea robins and other migratory fish species. Essential fish habitat for black sea bass consists of pelagic waters, structured habitat, rough bottom, shellfish, sand, and shell, from the Gulf of Maine through Cape Hatteras, North Carolina. Juveniles and adults mostly feed on crustaceans, small fish, and squid. The Northeast Fisheries Science Center (NEFSC) food habits database lists spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane flounder, and monkfish as predators of black sea bass.<sup>1</sup>

## **Status of the Stock**

The information below is based on the most recent stock assessment information available when this document was written. Updated stock assessment information will be available in July 2021.

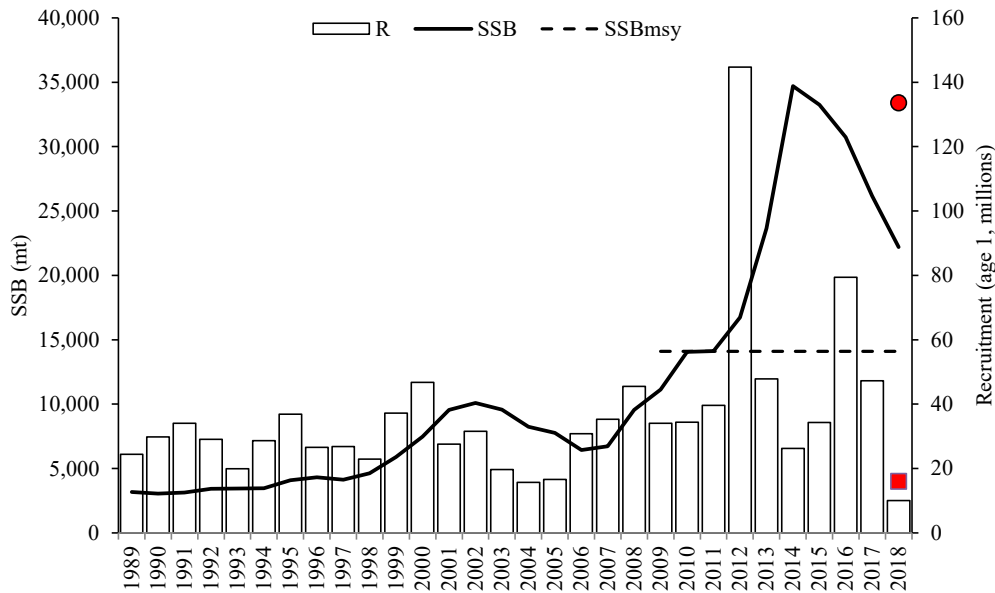
A black sea bass operational stock assessment was peer reviewed and accepted in August 2019. It incorporated commercial and recreational fisheries data and fishery-independent survey data through 2018, including revised MRIP data for 1989-2018. The assessment concluded that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2018. Spawning stock biomass in 2018 was estimated to be 2.4 times the target level. The average fishing mortality rate on fully selected ages 6-7 fish in 2018 was 9% below the fishing mortality threshold reference point, meaning that overfishing was not occurring in 2018 (Table 1). Figure 1 and Figure 2 show the time series of estimated spawning stock biomass, recruitment, fishing mortality, and catch (landings and dead discards) from the August 2019 stock assessment. The values for fishing mortality and spawning stock biomass were adjusted for 2018 only to account for retrospective bias in the model.<sup>4</sup>

The 2011 year class (i.e., those fish spawned in 2011) was estimated to be the largest in the time series at 144.7 million fish. The 2015 year class was the second largest at 79.4 million fish. The 2011 year class had a major impact on recent stock dynamics and was much more prevalent off Massachusetts through New York compared to New Jersey and south. The large 2015 year class is more evenly distributed from southern New England through the Mid-Atlantic. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 16.0 million fish, well below the 1989-2018 average of 36 million fish (Figure 1).<sup>4</sup> Recruitment estimates for the 2018-2020 year classes are not yet available.

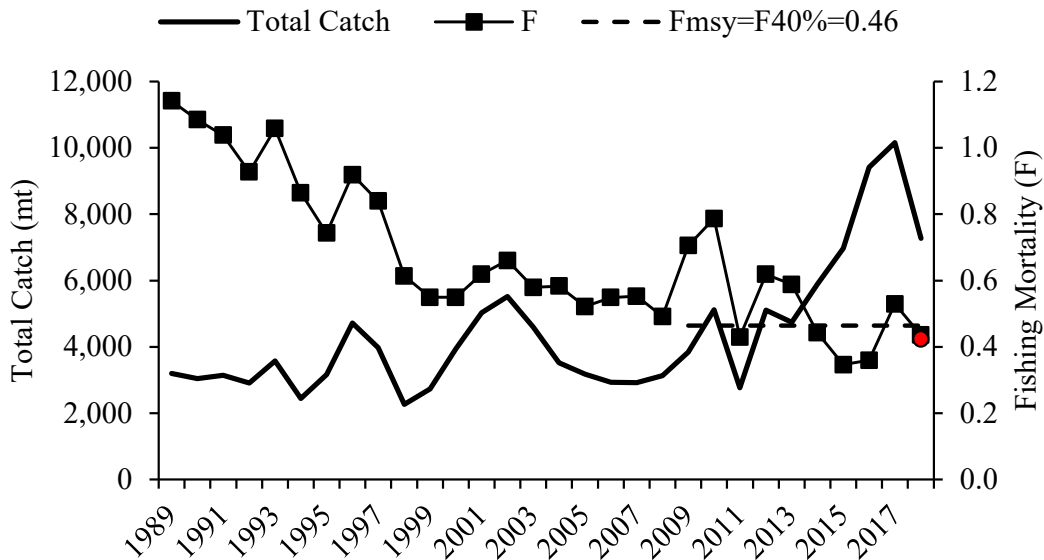
An updated black sea bass stock assessment will be peer reviewed in July 2021 and will be used to inform 2022-2023 catch and landings limits. This assessment will include data through 2019. Given data gaps for 2020 related to COVID-19 and the time required to address those gaps where possible, 2020 data will not be incorporated into this update.

**Table 1:** Black sea bass biological reference points from the 2019 operational stock assessment.<sup>4</sup>

Reference Points and terminal year SSB and F estimates	2019 operational stock assessment Data through 2018
$SSB_{MSY\ proxy} = SSB_{40\%}$ (biomass target)	31.07 mil lb / 14,092 mt
$\frac{1}{2} SSB_{MSY}$ (biomass threshold defining an overfished state)	15.53 mil lb / 7,046 mt
Terminal year SSB	73.65 mil lb / 33,407 mt (2018). Adjusted for retrospective bias. 240% of $SSB_{MSY}$ . <b>Not overfished.</b>
$F_{MSY\ proxy} = F_{40\%}$ (threshold defining overfishing)	0.46
Terminal year F	0.42 (2018). Adjusted for retrospective bias. Fully selected ages 6-7. 9% below $F_{MSY}$ . <b>Overfishing not occurring.</b>



**Figure 1:** Black sea bass spawning stock biomass (solid line); recruitment (bars), 1989 - 2018; and biomass reference point (dashed line) from the 2019 operational stock assessment. Recruitment is shown as age 1 fish (e.g., the 2011 year class is shown in 2012). The red circle is the retro-adjusted spawning stock biomass value for 2018. The red square is the retro-adjusted recruitment value for 2018. These values were adjusted only for 2018. The adjustments were made to correct for retrospective bias in the assessment model. The adjusted spawning stock biomass estimate should be used for comparison against the reference point. The stock is overfished when spawning stock biomass is below this reference point.<sup>4</sup>



**Figure 2:** Fishing mortality rate (F) on black sea bass ages 6-7, the FMSY proxy reference point from the 2019 operational stock assessment, and total catch (landings and dead discards), 1989-2018. The red circle is the retro-adjusted fishing mortality rate for 2018. This adjustment was made to correct for retrospective bias present in the assessment model and is used as the estimate to compare to the reference point. Overfishing is occurring when the fishing mortality rate exceeds this reference point.<sup>4</sup>

## Management System and Fishery Performance

### *Management*

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) work cooperatively to develop commercial and recreational fishery regulations for black sea bass from Maine through Cape Hatteras, North Carolina. The Council and Commission work in conjunction with NMFS, which serves as the federal implementation and enforcement entity. This cooperative management system was developed because a significant portion of the catch is taken from both state waters (0-3 miles offshore) and federal waters (3-200 miles offshore). This joint management program began in 1996 with the approval of amendment 9 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). The original FMP and subsequent amendments and framework adjustments are available at: [www.mafmc.org/fisheries/fmp/sf-s-bsb](http://www.mafmc.org/fisheries/fmp/sf-s-bsb).

Commercial and recreational black sea bass fisheries are managed using catch and landings limits, minimum fish sizes, open and closed seasons, gear regulations, permit requirements, and other regulations.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for black sea bass. The Council must either approve the ABC recommended by the SSC or a lower ABC. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs) based on the allocations prescribed in the FMP (i.e., 49% commercial, 51% recreational, applied to the portion of the ABC that is expected to be landed) and the recent distribution of discards between the commercial and recreational fisheries. These

allocations have been in place since 1998. The Council and Commission are considering an ongoing FMP amendment to determine if these allocation percentages should be revised to reflect more recent data.<sup>5</sup>

The Council and Commission also approve commercial and recreational annual catch targets (ACTs), which are set equal to or less than the respective ACLs to account for management uncertainty. To date, the black sea bass ACTs have always been set equal to the ACLs. The ABC, ACLs, and ACTs are catch limits which account for both landings and discards, while the commercial quota and recreational harvest limit (RHL) are landing limits. The commercial quota and RHL are calculated by subtracting expected discards from the respective ACTs.

#### *COVID-19 Data Impacts in 2020*

The COVID-19 pandemic impacted data collection in both the recreational and commercial fisheries. Commercial effort and markets were impacted by COVID-19 to various degrees; however, data collection for commercial landings from seafood dealers continued uninterrupted. Commercial discard estimates for 2020 will be affected by missing observer data. Commercial discard estimates are developed using approaches that rely heavily on observer data. On March 20, 2020, NMFS temporarily waived the requirement for vessels with Greater Atlantic permits to carry a fishery observer or at-sea monitor. This waiver was extended several times before observers were redeployed on August 14, 2020. At this time it is not clear whether alternative methodologies will be developed to generate 2020 commercial discard estimates for black sea bass and other species.

The COVID-19 pandemic disrupted the recreational Access Point Angler Intercept Survey (APAIS). All New England and Mid-Atlantic states suspended APAIS sampling starting in late March or April 2020. APAIS sampling resumed between May and August 2020, depending on the state. NMFS used imputation methods to fill gaps in 2020 catch data with data collected in 2018 and 2019. These proxy data match the time, place, and fishing mode combinations that would have been sampled had the APAIS continued uninterrupted. Proxy data were combined with observed data to produce catch estimates using the standard estimation methodology. The mail and telephone surveys that collect recreational effort data continued largely uninterrupted. NMFS has indicated that when complete 2021 recreational data are available in 2022, they will evaluate the effects of including 2021 data (for example, alongside 2019 data and instead of 2018 data) in the imputation. Because these effects are unknown, the agency cannot predict whether they will seek to revise their 2020 catch estimates.

#### *Fishery Landings Summary*

Table 2 shows black sea bass catch and landings limits from 2011 through 2021, as well as commercial and recreational landings through 2020. Total landings (commercial and recreational) peaked in 2017 at 15.5 million pounds. About 13.26 million pounds of black sea bass were landed by commercial and recreational fishermen from Maine through Cape Hatteras, North Carolina in 2020 (Figure 3).<sup>6,7</sup>

**Table 2:** Summary of catch and landings limits, and landings for commercial and recreational black sea bass fisheries from Maine through Cape Hatteras, NC 2010 through 2021. All values are in millions of pounds unless otherwise noted.<sup>6,7</sup>

Management measure	2011 <sup>a</sup>	2012 <sup>a</sup>	2013 <sup>a</sup>	2014 <sup>a</sup>	2015 <sup>a</sup>	2016 <sup>b</sup>	2017 <sup>c</sup>	2018 <sup>c</sup>	2019 <sup>c</sup>	2020 <sup>c</sup>	2021 <sup>d</sup>
ABC	4.50	4.50	5.50	5.50	5.50	6.67	10.47	8.94	8.94	15.07	17.45
Commercial ACL & ACT	--	1.98	2.60	2.60	2.60	3.15	5.09	4.35	4.35	6.98	9.52
Commercial quota <sup>e</sup>	1.71	1.71	2.17	2.17	2.21	2.71	4.12	3.52	3.52	5.58	6.09
Commercial landings	1.69	1.72	2.26	2.40	2.38	2.59	4.01	3.46	3.53	4.21	--
% of com. quota landed	99%	101%	104%	111%	108%	96%	97%	98%	100%	75%	--
Recreational ACL & ACT	--	1.86	2.90	2.90	2.90	3.52	5.38	4.59	4.59	8.09	7.93
RHL <sup>e</sup>	1.78	1.32	2.26	2.26	2.33	2.82	4.29	3.66	3.66	5.81	6.34
Recreational landings, old MRIP estimates	1.17	3.18	2.46	3.67	3.79	5.19	4.16	3.82	--	--	--
Recreational landings, revised MRIP estimates	3.27	7.04	5.68	6.93	7.82	12.05	11.50	7.92	8.61	9.05 <sup>f</sup>	--
% of RHL harvested (based on old MRIP estimates through 2018; new MRIP estimates for 2020) <sup>g</sup>	66%	241%	109%	162%	163%	184%	97%	104%	-- <sup>h</sup>	156%	--

<sup>a</sup> Measures in 2010-2015 were based on a constant catch approach used by the Council's SSC to set the ABC.

<sup>b</sup> Measures in 2016 were based on ABC that was set using a data poor management strategy evaluation approach.

<sup>c</sup> Measures in 2017-2021 were set based on a peer reviewed and approved stock assessment. The 2020-2021 measures are based on a stock assessment update that incorporated the revised time series of MRIP data.

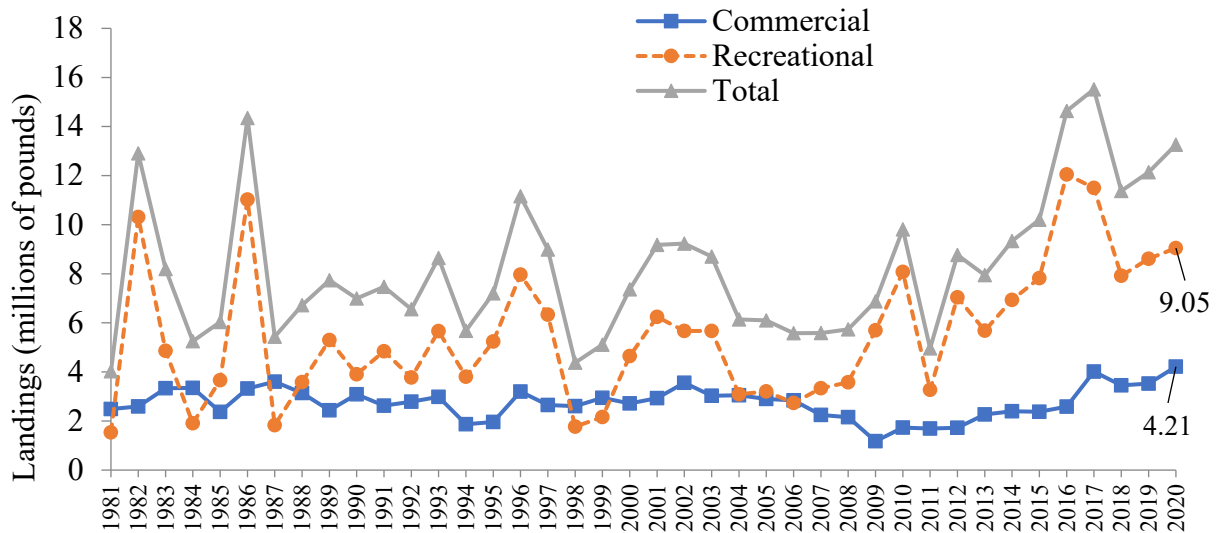
<sup>d</sup> The 2021 measures account for revisions to the Council's risk policy.

<sup>e</sup> The commercial quotas and RHLs for 2006-2014 account for deductions for the Research Set Aside program.

<sup>f</sup> 2020 recreational estimates were developed using imputation methods (incorporating 2018 and 2019 data) to account for missing 2020 APAIS data.

<sup>g</sup> The percent of RHL harvested is based on a comparison of the RHL to the previous or old MRIP estimates. The RHLs through 2019 did not account for the new MRIP estimates; therefore, it would be inappropriate to compare RHLs through 2019 to the revised MRIP estimates.

<sup>h</sup> 2019 estimates in the "old MRIP units" are not available. The 2019 RHL should not be compared to harvest in the new MRIP units because it did not account for revisions to the data.



**Figure 3:** Commercial and recreational black sea bass landings in millions of pounds from Maine through Cape Hatteras, North Carolina, 1981-2020. Recreational landings are based on the revised MRIP estimates.<sup>6,7</sup>

### Commercial Fishery

About 4.21 million pounds of black sea bass were landed in the commercial fishery in 2020. This is the highest amount of landings in the time series of available data from 1981 through 2020. Commercial black sea bass landings generally follow the coastwide quota and the 2020 quota of 5.58 million pounds was higher than any previous quota (Table 2, Figure 3). The 2020 quota was not fully harvested in large part due to impacts of the COVID-19 pandemic on market demand. Commercial black sea bass landings were lowest in 2009, when 1.18 million pounds were landed and the lowest quota in the time series was implemented (1.09 million pounds).<sup>7</sup>

Black sea bass are a valuable commercial species. Total ex-vessel value averaged \$11.57 million per year during 2018-2020. Landings and average price per pound (adjusted to 2020 dollars) were generally stable from 2010 through 2016. Landings increased in 2017 with an increase in the quota. On an annual coastwide level, the average price per pound tended to decrease with increases in landings since 2016 (Figure 4).<sup>7</sup> Prices are impacted by many factors in addition to landings. The relationship between landings and price varies at the regional, state, and sometimes port level based on market demand, state-specific regulations (e.g., seasonal openings), or individual trawl trips with high landings, all of which can be inter-related.

Over 183 federally-permitted dealers from Maine through North Carolina purchased black sea bass in 2020. More dealers bought black sea bass in New York than in any other state (Table 3).<sup>7</sup>

According to federal VTR data, statistical area 616, which includes important fishing areas near Hudson Canyon, was responsible for the largest percentage (38%) of commercial black sea bass catch (landings and dead discards, as reported by captains) in 2020. Statistical area 621, off southern New Jersey, Delaware, and Maryland accounted for the second highest proportion of catch (8%), followed by statistical area 613, south of Long Island (8%); statistical area 615 off New Jersey (8%); statistical area 537, south of Massachusetts and Rhode Island (6%); and statistical area 539, inshore of area 537 (5%; Table 4, Figure 5). Statistical area 539 had the highest



number of trips which reported black sea bass catch on federal VTRs in 2020 (2,102 trips), followed by statistical area 613 (1,092 trips).<sup>8</sup>

In 2020, most commercial black sea bass landings from state and federally-permitted vessels occurred in New Jersey (26%), followed by Massachusetts (17%), Rhode Island (13%), Virginia (12%), and Maryland (10%).<sup>7</sup>

The percentage of landings by state is generally driven by and closely matches the state-by-state commercial quota allocations that have been in place since 2003. States set measures to achieve their state-specific commercial quotas. In February 2021, the Council and the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board approved changes to these allocations to partially account for biomass distribution. The State of New York successfully appealed the February 2021 decision and, as a result, further revisions to these allocations are expected later in 2021.<sup>9</sup>

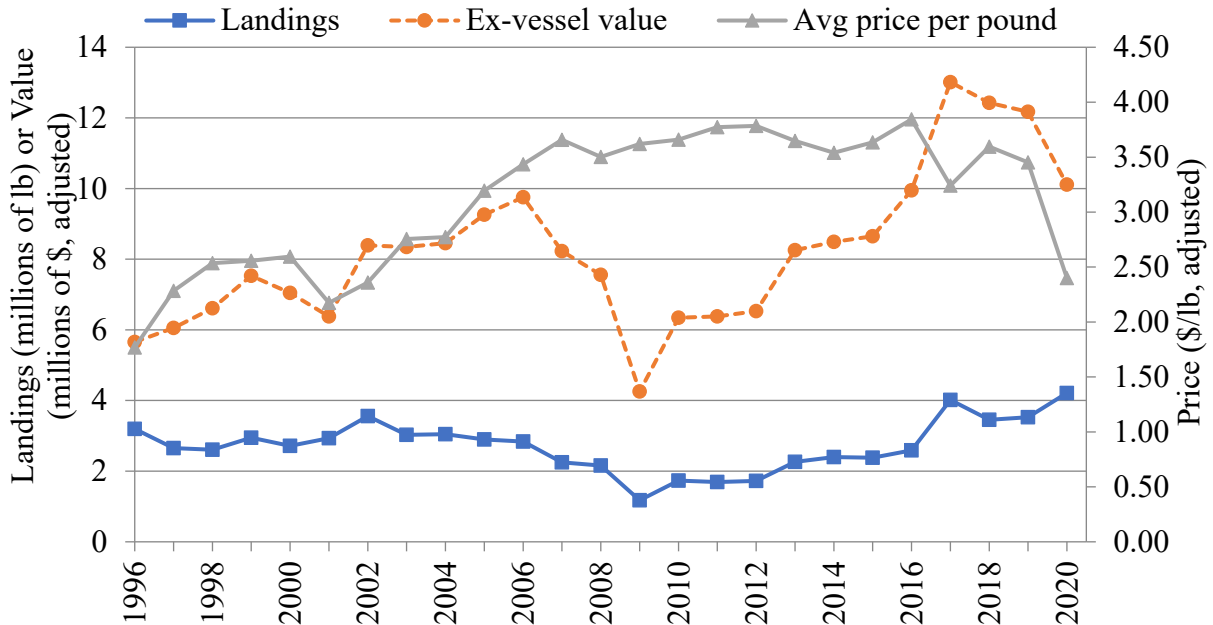
At least 100,000 pounds of black sea bass were landed in each of 11 ports in 8 states from Maine through North Carolina in 2020. These 11 ports collectively accounted for over 67% of all commercial black sea bass landings in 2020 (Table 5).<sup>7</sup>

A moratorium permit is required to fish commercially for black sea bass in federal waters. In 2020, 710 federal commercial black sea bass permits were issued.<sup>10</sup>

A minimum commercial black sea bass size limit of 11 inches total length has been in place in federal waters since 2002. There is no federal waters black sea bass possession limit; however, states set possession limits for state waters.

About 72% of commercial black sea bass landings reported on federal VTRs in 2020 were caught with bottom otter trawl gear, 24% with pots/traps, and 3% with hand lines. Other gear types each accounted for 1% or less of total commercial landings reported on VTRs in 2020.<sup>8</sup> It is important to note that federal VTR data do not account for landings of black sea bass by vessels that are only permitted to fish in state waters. Some gear types (e.g., handlines) are more prevalent in state waters than in federal waters.

Any federally-permitted vessel which uses otter trawl gear and catches more than 500 pounds of black sea bass from January through March, or more than 100 pounds from April through December, must use nets with a minimum mesh size of 4.5-inch diamond mesh applied throughout the codend for at least 75 continuous meshes forward of the end of the net. Pots and traps used to commercially harvest black sea bass must have two escape vents with degradable hinges in the parlor. The escape vents must measure 1.375 inches by 5.75 inches if rectangular, 2 inches by 2 inches if square, or have a diameter of 2.5 inches if circular.



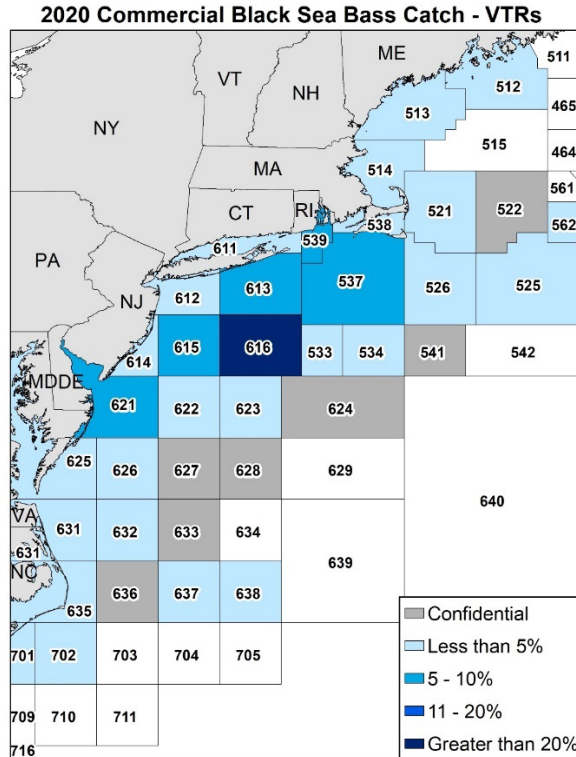
**Figure 4:** Landings, ex-vessel value, and average price for black sea bass, ME-NC, 1996-2020. Ex-vessel value and price are inflation-adjusted to 2020 dollars using the Gross Domestic Product Price Deflator.<sup>7</sup>

**Table 3:** Number of dealers, by state, reporting purchases of black sea bass in 2020. C = confidential.<sup>7</sup>

State	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of dealers	C	0	28	28	12	43	28	4	8	13	19

**Table 4:** Statistical areas that accounted for at least 5% of the total commercial black sea bass catch (landings and dead discards) in 2020 based on federal VTRs, with associated number of trips.<sup>8</sup> Federal VTR data do not capture landings by vessels only permitted to fish in state waters.

Statistical Area	Percent of 2020 Commercial Black Sea Bass Catch	Number of Trips
616	38%	587
621	8%	222
613	8%	1,092
615	8%	168
537	6%	828
539	5%	2,102



**Figure 5:** Proportion of black sea bass catch (landings and dead discards) by statistical area in 2020 based on federal VTR data. Confidential areas are associated with fewer than three vessels and/or dealers. Confidential areas collectively accounted for less than 1% of commercial catch reported on VTRs in 2020. The amount of catch not reported on federal VTRs (e.g., catch from vessels permitted to fish only in state waters) is unknown. In 2019, Northeast Fisheries Science Center Data (“AA tables”) suggest that 20% of total commercial landings (state and federal) were not associated with a statistical area reported in federal VTRs; AA data for 2020 are not available.<sup>8</sup>

**Table 5:** Ports reporting at least 100,000 pounds of black sea bass landings in 2020, associated number of vessels, and percentage of total commercial landings. C = confidential.<sup>7</sup>

Port name	Pounds of black sea bass landed	% of total commercial black sea bass landed	Number of vessels landing black sea bass
Point Pleasant, NJ	682,754	16%	37
Ocean City, MD	396,825	9%	9
Point Judith, RI	395,813	9%	148
New Bedford, MA	289,393	7%	57
Montauk, NY	229,432	5%	91
Cape May, NJ	211,373	5%	30
Hampton, VA	208,316	5%	23
Newport News, VA	157,717	4%	14
Beaufort, NC	141,486	3%	42
Sea Isle City, NJ	131,149	3%	9
Lewes, DE	C	C	C

## ***Recreational Fishery***

The Council develops coast-wide regulations for the recreational black sea bass fishery in federal waters, including a minimum fish size limit, a possession limit, and open and closed seasons (Table 6). The Commission and member states develop recreational measures in state waters (Table 7).

In July 2018, MRIP released revisions to their time series of recreational catch and landings estimates based on adjustments for a revised angler intercept methodology and a new effort estimation methodology, namely a transition from a telephone-based effort survey to a mail-based effort survey. The revised estimates of catch and landings are several times higher than the previous estimates for shore and private boat modes, substantially raising the overall black sea bass catch and harvest estimates. The RHLs and other management measures through 2019 were based on the previous MRIP estimates and should not be compared against the revised MRIP estimates. The revised MRIP estimates were incorporated into the stock assessment in 2019 and were used to derive the catch and landings limits for 2020 and beyond.

According to the most recent MRIP data, between 1981 and 2020, recreational catch (landings and live and dead discards) of black sea bass from Maine through Cape Hatteras, NC was lowest in 1984 at 4.73 million fish and was highest in 2017 at 41.19 million fish. Recreational harvest in weight was highest in 2016 at 12.05 million pounds; however, harvest in numbers of fish was highest in 1986 at 19.28 million fish. Recreational harvest in weight was lowest in 1981 at 1.53 million pounds, while harvest in numbers of fish was lowest in 1998 at 1.56 million fish.<sup>6</sup>

It should be noted that the coastwide 2016 and 2017 MRIP estimates for black sea bass are viewed as outliers by the Monitoring and Technical Committees and the Scientific and Statistical Committee due to the influence of very high estimates in individual states and waves (i.e., New York 2016 wave 6 for all modes and New Jersey 2017 wave 3 for the private/rental mode). Steps have been taken to address uncertainty in these specific estimates in the stock assessment and in management.

In 2020, an estimated 4.23 million black sea bass, at about 9.05 million pounds, were harvested by recreational anglers from Maine through Cape Hatteras, North Carolina (Figure 3, Table 9).<sup>6</sup> This represents a 56% overage of the 2020 RHL (Table 2). The Council and Board agreed to leave the recreational bag, size, and season limits unchanged in 2020 despite an expected RHL overage. This was viewed as a temporary solution to allow more time to consider how to fully transition the management system to use of the revised MRIP data, including ongoing considerations related to the commercial/recreational allocation and the Recreational Reform Initiative. The 2020 RHL overage will be discussed in development of 2022 recreational measures but is unlikely to impact the 2022 RHL and ACL given recent biomass estimates and the Council's Accountability Measures.<sup>11</sup>

In 2020, 56% of black sea bass harvested by recreational fishermen from Maine through North Carolina (in numbers of fish) were caught in state waters and 44% in federal waters (Table 9). Most of the recreational harvest in 2020 was landed in New York (30%), followed by New Jersey (19%), Rhode Island (15%), and Massachusetts (14%).<sup>6</sup>

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2020, 850 vessels held a federal party/charter permit.<sup>10</sup>

About 86% of the recreational black sea bass harvest in 2020 came from anglers fishing on private or rental boats, about 12% from anglers aboard party or charter boats, and 2% from anglers fishing

from shore (Table 11).<sup>6</sup> Party and charter fishing was restricted in all states for part of 2020 due to the COVID-19 pandemic.

**Table 6:** Federal black sea bass recreational measures, Maine - Cape Hatteras, NC, 2007 - 2020.<sup>6</sup>

Year	Min. size	Bag limit	Open season
2007-2008	12"	25	Jan 1 - Dec 31
2009	12.5"	25	Jan 1 - Oct 5
2010-2011	12.5"	25	May 22 - Oct 11; Nov 1 - Dec 31
2012	12.5"	25	May 19 - Oct 14; Nov 1 - Dec 31
2013	12.5"	20	Jan 1 - Feb 28; May 19 - Oct 14; Nov 1 - Dec 31
2014	12.5"	15	May 19 - Sept 18; Oct 18 - Dec 31
2015-2017	12.5"	15	May 15 - Sept 21; Oct 22 - Dec 31
2018-2021	12.5"	15	Feb 1 - 28; May 15 - Dec 31

**Table 7:** State waters black sea bass recreational measures in 2018-2021. The only changes made during these years were to maintain a Saturday opening (Massachusetts) or to account for harvest in the February opening (Virginia and North Carolina).<sup>6</sup>

State	Min. Size	Bag Limit	Open Season
Maine	13"	10	May 19 - Sept 21; Oct 18 - Dec 31
New Hampshire	13"	10	Jan 1 - Dec 31
Massachusetts	15"	5	2018: May 19 - Sept 12
			2019 & 2020: May 18 - Sept 8
			2021: May 18 - Sept 8
Rhode Island	15"	3	Jun 24 - Aug 31
		7	Sept 1 - Dec 31
Connecticut private & shore	15"	5	May 19 - Dec 31
CT authorized party/charter monitoring program vessels	15"	5	May 19 - Aug 31
		7	Sept 1 - Dec 31
New York	15"	3	Jun 23 - Aug 31
		7	Sept 1 - Dec 31
New Jersey	12.5"	10	May 15 - Jun 22
		2	Jul 1 - Aug 31
		10	Oct 8 - Oct 31
		15	Nov 1 - Dec 31
Delaware	12.5"	15	May 15 - Dec 31
Maryland	12.5"	15	May 15 - Dec 31
Virginia	12.5"	15	2018: Feb 1 - 28; May 15 - Dec 31
			2019: Feb 1-28; May 15-31; June 22-Dec 31
			2020: Feb 1 - 29; May 29 - Dec 31
			2021: Feb 1-28; May 15-May 31; Jun 16-Dec 31
North Carolina, North of Cape Hatteras (35° 15'N)	12.5	15	2018: Feb 1 - 28; May 15 - Dec 31
			2019: Feb 1 - 28; May 17 - Dec 31
			2020: Feb 1 - 29; May 17 - Nov 30
			2021: May 15 - Dec 31

**Table 8:** Estimated recreational black sea bass catch (harvest and live and dead discards) and harvest from Maine through Cape Hatteras, North Carolina, 2011-2021, based on the revised MRIP estimates.<sup>6</sup>

<b>Year</b>	<b>Catch (millions of fish)</b>	<b>Harvest (millions of fish)</b>	<b>Harvest (millions of pounds)</b>	<b>% of catch retained</b>
2011	12.47	1.78	3.27	14%
2012	34.95	3.69	7.04	11%
2013	25.71	3.01	5.68	12%
2014	23.29	3.81	6.93	16%
2015	23.17	4.39	7.82	19%
2016	35.80	5.84	12.05	16%
2017	41.19	5.70	11.50	14%
2018	24.99	3.99	7.92	16%
2019	32.32	4.38	8.61	14%
2020	34.11	4.23	9.05	12%

**Table 9:** Estimated percentage of black sea bass recreational harvest (in numbers of fish) in state and federal waters, from Maine through North Carolina, 2011-2021, based on the revised MRIP estimates.<sup>6</sup>

<b>Year</b>	<b>State waters</b>	<b>Federal waters</b>
2011	65%	35%
2012	69%	31%
2013	67%	33%
2014	68%	32%
2015	69%	31%
2016	59%	41%
2017	40%	60%
2018	61%	39%
2019	62%	38%
2020	56%	44%
<b>2011-2020 average</b>	<b>60%</b>	<b>40%</b>
<b>2018-2020 average</b>	<b>59%</b>	<b>41%</b>

**Table 10:** State-by-state contribution to total recreational harvest of black sea bass (in number of fish), Maine through Cape Hatteras, North Carolina, 2018 - 2020, based on the revised MRIP estimates.<sup>6</sup>

State	2018	2019	2020	2018-2020 average
Maine	0.0%	0.0%	0.0%	0.0%
New Hampshire	0.0%	0.0%	0.0%	0.0%
Massachusetts	17.0%	12.0%	13.6%	14.1%
Rhode Island	17.7%	11.8%	14.6%	14.6%
Connecticut	9.5%	11.8%	9.6%	10.3%
New York	21.4%	36.0%	30.1%	29.4%
New Jersey	26.0%	19.0%	19.2%	21.3%
Delaware	2.2%	1.0%	3.3%	2.2%
Maryland	3.9%	3.0%	1.9%	2.9%
Virginia	2.2%	5.3%	6.5%	4.7%
North Carolina	0.2%	0.1%	1.1%	0.5%

**Table 11:** Percent of total recreational black sea bass harvest (in numbers of fish) by recreational fishing mode, Maine through Cape Hatteras, North Carolina, 2011-2020, based on the revised MRIP estimates.<sup>6</sup>

Year	Shore	Party/charter	Private/rental	Total Number of Fish
2011	3%	21%	76%	1,782,519
2012	1%	19%	80%	3,690,188
2013	2%	9%	89%	3,014,535
2014	3%	16%	81%	3,806,448
2015	0%	12%	88%	4,392,452
2016	4%	9%	88%	5,841,460
2017	1%	9%	90%	5,704,072
2018	1%	12%	86%	3,992,628
2019	3%	18%	79%	4,377,491
2020	2%	12%	86%	4,227,860
2011-2020 avg	2%	13%	85%	4,082,965

## References

- <sup>1</sup> Drohan, A.F., J. P. Manderson, D. B. Packer. 2007. Essential fish habitat source document: black sea bass, *Centropristis striata*, life history and habitat characteristics, 2nd edition. NOAA Technical Memorandum NMFS NE 200.
- <sup>2</sup> Northeast Fisheries Science Center. 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Report. Northeast Fisheries Science Center Reference Doc. 17-03. 822 p. Available at: <https://www.nefsc.noaa.gov/publications/crd/crd1703/>
- <sup>3</sup> Blaylock, J. and G.R. Shepherd. 2016. Evaluating the vulnerability of an atypical protogynous hermaphrodite to fishery exploitation: results from a population model for black sea bass (*Centropristis striata*). *Fishery Bulletin* 114(4): 476-489.
- <sup>4</sup> Northeast Fisheries Science Center. 2019. Prepublication copy of the August 2019 operational stock assessment report prepared for the Council and the SSC. Available at: <http://www.mafmc.org/ssc-meetings/2019/september-9-11>
- <sup>5</sup> More information on the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment is available at: <https://www.mafmc.org/actions/sfsbsb-allocation-amendment>.
- <sup>6</sup> Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed June 2021. Available at: <https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries>
- <sup>7</sup> Unpublished NMFS commercial fish dealer data (i.e., “DERS”), which include both state and federal dealer data).
- <sup>8</sup> Unpublished NMFS VTR data.
- <sup>9</sup> More information on the Black Sea Bass Commercial State Allocation Amendment/Addendum is available at: <https://www.mafmc.org/actions/bsb-commercial-allocation>.
- <sup>10</sup> Unpublished NMFS permit data.
- <sup>11</sup> A summary of the accountability measures is available at: [https://www.mafmc.org/s/AMs-description\\_SF\\_scup-BSB\\_Dec2020.pdf](https://www.mafmc.org/s/AMs-description_SF_scup-BSB_Dec2020.pdf)