



Mid-Atlantic Fishery Management Council
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MEMORANDUM

Date: August 3, 2021
To: Council and Board
From: Karson Coutre, Staff
Subject: Scup 2022-2023 Specifications

On Monday, August 9, the Council and Board will consider scup 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 Scup Commercial Minimum Size and Winter I possession limits for 2022-2023 dated July 20, 2021
- 5) Staff memo on 2022-2023 scup specifications dated July 8, 2021
- 6) Scup Management Track Assessment for 2021
- 7) June 2021 Advisory Panel Fishery Performance Report and associated additional AP comments received through July 6, 2021
- 8) Request from Lund's Fisheries dated June 18, 2021
- 9) 2021 Scup 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

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

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	
OFL	31.67	14,367	36.28	16,458	34.74	15,759	36.28	16,458	34.98	15,865	Assessment projections/SSC recommendations
ABC	27.11	12,297	33.96	15,403	32.27	14,639	33.12	15,021	33.12	15,021	SSC recommendations
ABC Landings Portion	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
ABC Dead Discards Portion	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
Expected Commercial Dead Discards	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
Expected Recreational Dead Discards	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
Commercial ACL	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
Commercial ACT	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
Commercial Quota	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
Recreational ACL	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
Recreational ACT	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
RHL	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

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 Fisheries¹ 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 2018-2020.² 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

¹ Available at https://www.mafmc.org/s/Lunds_scup_request2021.pdf

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

Black Sea Bass 2022-2023 Specifications

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	
OFL	17.68	8,021	19.26	8,735	17.01	7,716	Stock assessment projections
ABC	17.45	7,916	18.86	8,555	16.66	7,557	Stock assessment projections and Council risk policy
Expected com. dead discards	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.)
Expected rec. dead discards	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)
ABC landings	12.44	5,641	13.20	5,990	11.66	5,291	ABC - expected com. and rec. dead discards
Com. ACL	9.52	4,320	10.10	4,583	8.93	4,048	49% of ABC landings portion + expected com. disc.
Com. ACT	9.52	4,320	10.10	4,583	8.93	4,048	Equal to the ACL; no deduction for management uncertainty
Com. quota	6.09	2,764	6.47	2,934	5.71	2,592	Com. ACT minus expected com. dead discards
Rec. ACL	7.93	3,596	8.76	3,972	7.74	3,509	51% of ABC landings portion + expected rec. disc.
Rec. ACT	7.93	3,596	8.76	3,972	7.74	3,509	Equal to the ACL; no deduction for management uncertainty
RHL	6.34	2,877	6.74	3,055	5.95	2,699	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

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

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

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 20, 2021

TO: Chris Moore, Executive Director

FROM: Karson Coutre, Staff

SUBJECT: Scup Commercial Minimum Size and Winter I possession limits for 2022-2023

Background

In June 2021, the Council received a request from Lund's Fisheries¹ to have the monitoring committee (MC) analyze increasing the scup commercial Winter I possession limit to 100,000 pounds (from the current 50,000) and analyze 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), which would further support developing these frozen markets.

The MC will discuss these proposed changes during their July 27 meeting. This request was discussed briefly by advisory panel (AP) members during the June AP Fishery Performance Report meeting and will be discussed in more detail at their upcoming July 29 meeting discussing MC recommendations for 2022-2023.

At their June meeting and in related email comments, no advisors spoke in favor of an increase or removal of the Winter I possession limit in 2022-2023. Some advisors expressed concerns such as the potential for harming the fresh fish market and increasing commercial discards. One advisor spoke in favor of decreasing the minimum fish size to accommodate potential demand for smaller fish, while three advisors did not support moving to an 8-inch TL minimum size for reasons such as maturity concerns, no market, and increased discards due to targeting smaller fish. A summary of this discussion can be found in the Advisory Panel Fishery Performance Report and associated email comments.²

¹ Available at https://www.mafmc.org/s/Lunds_scup_request2021.pdf

² Available at https://www.mafmc.org/s/SFSBSB_FPR_June-2021.pdf

Scup biomass and recruitment

The 2021 assessment indicates that the scup stock was not overfished, and overfishing was not occurring in 2019 relative to the updated biological reference points calculated through the assessment. Spawning stock biomass was estimated to be about 389 million pounds (176,404 mt) in 2019, about 2 times the SSB_{MSY} proxy reference point of 198.458 million pounds (90,019 mt). Fishing mortality on fully selected age 4 scup was 0.136 in 2019, about 68% of the F_{MSY} proxy reference point of 0.200 in 2019. The 2017-2019 year classes are estimated to be below average, with the 2019 year class as the smallest in the time series at 34 million fish (Figure 1).

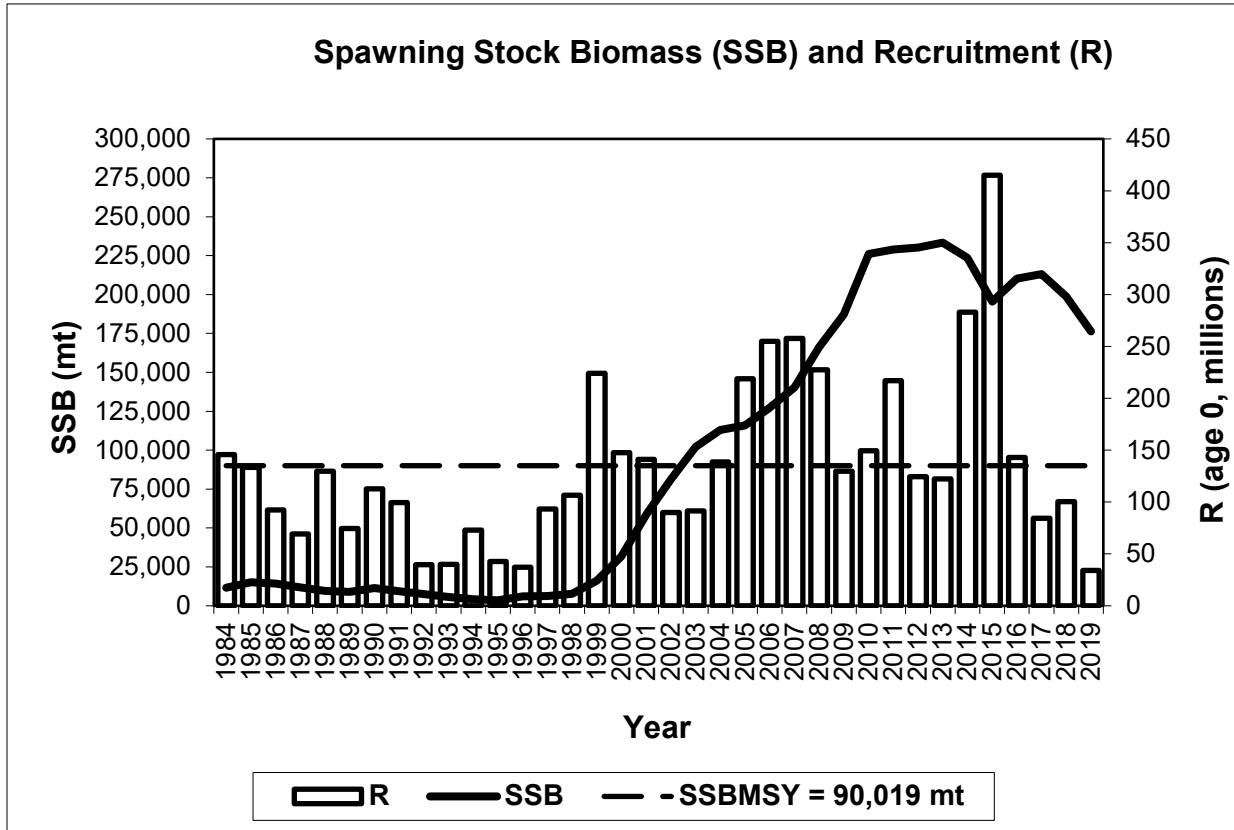


Figure 1: Scup SSB and recruitment at age 0, 1984-2019 from the 2021 management track stock assessment.

Size limit considerations and staff recommendation

The minimum size for retention of scup in the commercial fishery is 9 inches total length. This regulation applies to all commercial landings of scup in state and federal waters, including landings of incidental catch. This measure was first implemented in 1996, when scup were first managed by the Council and Commission. The Council and Board considered modifying this measure in 2005, 2012, and in 2015. After reviewing this measure in detail in 2015, the Monitoring Committee, Council, and Board all recommended no changes.³

³ The 2015 commercial measures review document is available at http://www.mafmc.org/s/Tab11_SF-S-BSB-Commercial-Measures.pdf.

The scup commercial minimum size regulations are set using total length (TL). Northeast Fisheries Science Center (NEFSC) data estimate maturity by fork length (FL). Using the most recent FL to TL conversion equation (Maniscalco 2013), an 8 inch TL scup, which is the proposed decrease in minimum size, is approximately 7 inches long in FL. Scup caught in the NEFSC survey from 2018-2019 and were found to be 57% mature at 7 inches FL, 84% mature at 8 inches FL and 98% mature at 9 inches FL (Mark Terceiro, personal communication).

According to discard estimates using otter trawl observer data from July 2018-June 2019, about 53.8% of scup discards were due to size regulation, 3.9% were due to quota, 36.5% were due to no market and 5.8% were discarded for poor quality or other reasons.⁴ Decreasing the minimum size has the potential to decrease a portion of the dead discards due to size regulations which could be beneficial to fishermen and reduce waste in the fishery. Decreasing the minimum size to 8 inches TL may also lead to increased utilization of the commercial quota which has had underages of 16-44% in the past five years.

However, as discussed by AP members and in the MC 2015 review of commercial measures, there are concerns with the potential for shifting the fishery selectivity to smaller or younger scup caught.⁵ The proposed decrease in minimum size to 8 in TL (~7 in FL) would allow for the harvest of scup at a size where about 57% are mature. At the current minimum size of 9 inches TL (~8 in FL), about 84% are mature. Harvesting more immature scup could cause a decline in yield-per-recruit and ultimately harm the spawning stock biomass. As described in the previous section, the stock biomass is on a declining trajectory and 2019 was the lowest recruitment in the time series (Figure 1). Because of this, ABCs are projected to decrease by 8% in 2022 and 15% 2023 compared with the 2021 ABC.⁶ Given the selectivity concerns, recent low recruitment, declining stock biomass, and lack of strong support among the AP, staff recommend that the commercial minimum size for scup remain at 9 inches TL.

Possession limit considerations and staff recommendation

Commercial possession limits are designed to help constrain landings to the seasonal period quotas. The Winter I possession limit is 50,000 pounds, which is the highest Winter I limit since possession limits went into place in 1999. After 80% of the Winter I quota is landed, the possession limit drops to 1,000 pounds. The Winter I quota period possession limit was last modified in 2012, when it increased from 30,000 to 50,000 pounds.

The commercial scup fishery has underutilized its annual quota and its Winter I quota in recent years (Table 1). The intent of increasing or eliminating the possession limit during Winter I would be to allow for increased Winter I landings and therefore higher utilization of the quota. However, from 2018-2020 less than 1% of scup trips in Winter I landed more than 20,000 pounds and no scup trips landed greater than 40,000 pounds (Table 2). This suggests that the

⁴2020 SBRM Discard Estimation Report available at <https://doi.org/10.25923/z0mw-9t57>

⁵ Available at http://www.mafmc.org/s/Tab11_SF-S-BSB-Commercial-Measures.pdf

⁶ Staff memo: 2022-2023 Scup ABC Recommendations available at https://www.mafmc.org/s/b_Scup_specs2022_2023memo.pdf

current possession limit of 50,000 pounds is not limiting harvest opportunities in Winter I and other factors such as market dynamics may play a bigger role in driving scup harvest.

Although it is difficult to predict future fishery dynamics, increasing or eliminating the possession limit may encourage more or larger capacity vessels to increase their targeting of scup that had previously targeted other species. As mentioned above, this could lead to better utilization of the Winter I quota. However, some advisors were concerned that this could cause prices to crash in the fresh fish market. In future years, if biomass continues to decline and market demand increases or stays the same, an increased or eliminated possession limit could lead to harvesting 80% of the quota more quickly in Winter I, triggering a possession limit drop to 1,000 pounds. This could lead to decreased harvest opportunity for some vessels or regions along the coast that may fish later in the Winter I period.

As mentioned above, the declining biomass and low recruitment in recent years remain a concern while discussing liberalizing commercial measures. The majority of scup trips have fallen well below the current Winter I possession limit of 50,000 pounds, providing room for larger poundage trips under the current limits. For these reasons, staff recommend no changes to the current commercial Winter I possession limit of 50,000 pounds in 2022-2023.

Table 1: Scup annual and Winter I commercial landings relative to quotas in millions of pounds, 2016-2020 (2020 values are preliminary).

Year	Com. landings	Com. quota	Quota underage	Winter I landings	Winter I quota	Winter I quota underage
2016	15.76	20.47	-23%	6.08	9.23	-34%
2017	15.44	18.38	-16%	5.92	8.29	-29%
2018	13.37	23.98	-44%	4.85	10.82	-55%
2019	13.78	23.98	-43%	5.55	10.82	-49%
2020	13.58	22.23	-39%	5.18	10.03	-48%

Table 2. The total number of scup trips during the winter I period from 2018-2020, and the number of trips landing greater than 10,000, 20,000, 30,000, and 40,000 pounds of scup as shown in NMFS dealer data. “C” refers to confidential data and a Winter I trip was defined as at least one pound of scup caught per trip from January through April.

Year	Total # Winter I trips	Number of trips landing more than:			
		10,000 lb	20,000 lb	30,000 lb	40,000 lb
2018	3,269	61	11	C	0
2019	3,712	79	14	C	0
2020	3,172	89	13	C	0



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

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

MEMORANDUM

DATE: July 9, 2021

TO: Chris Moore, Executive Director

FROM: Karson Coutre, Staff

SUBJECT: Scup Specifications for 2022-2023

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 scup, as well as scup commercial management measures for 2022. Additional information on fishery performance and past management measures can be found in the 2021 Scup Fishery Information Document and the 2021 Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report developed by advisors.¹

In 2021, the Northeast Fisheries Science Center (NEFSC) provided a management track assessment for scup, which was peer reviewed and accepted in June 2021. This assessment updated the existing assessment model with fishery catch and fishery-independent survey data through 2019.²

The 2021 assessment indicates that the scup stock was not overfished, and overfishing was not occurring in 2019 relative to the updated biological reference points calculated through the assessment. Spawning stock biomass was estimated to be about 389 million pounds (176,404 mt) in 2019, about 2 times the SSB_{MSY} proxy reference point of 198.458 million pounds (90,019 mt). Fishing mortality on fully selected age 4 scup was 0.136 in 2019, about 68% of the F_{MSY} proxy reference point of 0.200 in 2019. The 2017-2019 year classes are estimated to be below average, with the 2019 year class as the smallest in the time series.

There are currently no catch and landings limits in place for scup beyond the 2021 fishing year. The SSC should recommend ABC levels for 2022-2023 for the Council and Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) to consider at their joint August 2021 meeting. Two-year specifications are recommended to align with the current stock assessment schedule for scup, under which the next update is expected in 2023 to inform 2024-2025 specifications.

Based on the SSC's recommendations for ABCs, the Monitoring Committee recommends sector specific

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

² Available at: <https://www.mafmc.org/council-events/2021/ssc-july-21-23>

catch and landings limits and management measures to constrain catch and landings to these limits. Specifically, the Monitoring Committee should review recent fishery performance and make a recommendation to the Council and Board regarding 2022-2023 commercial and recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs), commercial quotas, and recreational harvest limits. The Monitoring Committee will also consider whether any revisions are needed to the commercial management measures (minimum fish size, minimum mesh size, possession limits, etc.) for 2022. Recreational measures for 2022 will be considered later in 2021.

The currently implemented 2021 catch and landings limits are shown in Table 1. As described below, previously implemented 2021 limits were revised by the SSC and Council/Board in summer 2020 based on 2019 changes to the Council risk policy.

ABC projections for 2022-2023 were provided by NEFSC staff for both varying ABCs from 2022-2023, as well as an averaged approach where the 2022-2023 ABCs are identical. The Council and Board have requested the ability to determine which approach is more appropriate from a policy standpoint; therefore, the SSC is requested to provide recommendations for both varying and averaged ABCs. The resulting ABCs and associated staff-recommended commercial and recreational limits are provided in Table 2. Staff recommend that the Council and Board adopt the varying ABC approach for 2022-2023. This would result in a 2022 ABC of 32.11 million pounds (14,566 mt) and a 2023 ABC of 29.67 million pounds (13,460 mt), which would represent an 8% decrease in 2022 and 15% decrease in 2023 from the 2021 ABC of 34.81 million pounds (15,791 mt).

Table 1: Currently implemented 2021 scup catch and landings limits based on the varying ABC approach.

Management measure	2021		Basis
	mil lb	mt	
OFL	35.30	16,012	Assessment projections
ABC	34.81	15,791	Assessment projections & risk policy
ABC discards	8.24	3,740	Assessment projections
Commercial ACL	27.15	12,317	78% of ABC (per FMP)
Commercial ACT	27.15	12,317	Set equal to commercial ACL (staff recommendation)
Projected commercial discards	6.65	3,018	80.7% of ABC discards (avg. % of dead discards from commercial fishery, 2016-2018)
Commercial quota	20.50	9,299	Commercial ACT minus discards
Recreational ACL	7.66	3,474	22% of ABC (per FMP)
Recreational ACT	7.66	3,474	Set equal to recreational ACL (staff recommendation)
Projected recreational discards	1.59	722	19.3% of the ABC discards (avg. % of dead discards from rec. fishery, 2016-2018)
RHL	6.07	2,752	Recreational ACT minus discards

Table 2: Potential 2022-2023 scup catch and landings limits based on ABC projections provided by the NEFSC and under the averaged and varying ABC approaches. Under the averaged ABC approach, the ABCs and ABC discards are averaged to derive equal limits across 2022-2023.

Mgmt measure	2022/2023 (Averaged ABCs)		2022 (Varying ABCs)		2023 (Varying ABCs)		Basis
	mil lb	mt	mil lb	mt	mil lb	mt	
OFL	32.56/ 30.22	14,770/ 13,708	32.56	14,770	30.09	13,648	Assessment projections
ABC	30.89	14,013	32.11	14,566	29.67	13,460	Assessment projections & risk policy
ABC discards	6.04	2,742	5.65	2,564	6.39	2,900	Assessment projections
Com. ACL	24.10	10,930	25.05	11,361	23.15	10,499	78% of ABC (per FMP)
Com. ACT	24.10	10,930	25.05	11,361	23.15	10,499	Set equal to commercial ACL (staff recommendation)
Projected com. discards	4.99	2,263	4.67	2,117	5.28	2,394	82.6% of ABC discards (avg. % of dead discards from commercial fishery, 2017-2019)
Com. quota	19.11	8,667	20.38	9,245	17.87	8,105	Commercial ACT minus discards
Rec. ACL	6.80	3,083	7.06	3,205	6.53	2,961	22% of ABC (per FMP)
Rec. ACT	6.80	3,083	7.06	3,205	6.53	2,961	Set equal to recreational ACL (staff recommendation)
Projected rec. discards	1.05	478	0.99	447	1.12	506	17.4% of the ABC discards (avg. % of dead discards from rec. fishery, 2017-2019)
RHL	5.74	2,605	6.08	2,757	5.41	2,455	Recreational ACT minus discards

Introduction

The Magnuson-Stevens Act (MSA) requires that the Council’s SSC provide scientific advice for fishery management decisions, including recommendations for ABCs, prevention of overfishing, and achieving maximum sustainable yield (MSY). The SSC must recommend ABCs that address scientific uncertainty. The MSA mandates that the Council's catch limit recommendations cannot exceed the ABCs recommended by the SSC.

The Monitoring Committee is responsible for developing recommendations for management measures to achieve the ABCs recommended by the SSC. Specifically, the Monitoring Committee recommends ACTs that are equal to or less than the ACLs to address management uncertainty and recommends management

measures designed to achieve these ACTs. The staff recommendations for commercial and recreational catch and landings limits shown in Table 2 are subject to discussion by the Monitoring Committee, which will provide recommendations on these limits for the Council and Board's consideration. The Monitoring Committee should also provide recommendations for varying and constant ACLs, ACTs, RHLs, and commercial quotas based on the two sets of ABCs recommended by the SSC.

Summer flounder, scup, and black sea bass are cooperatively managed by the Council and the ASMFC under a joint Fishery Management Plan (FMP). The Council and the ASMFC's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) meet jointly each year to consider SSC and Monitoring Committee recommendations before deciding on proposed scup catch limits and other scup management measures. The Council and Board may set specifications for scup for up to three years at a time. The Council and Board submit their recommendations to the National Marine Fisheries Service (NMFS), which is responsible for implementation and enforcement of federal fisheries regulations.

Recent Catch and Landings

The COVID-19 pandemic impacted data collection in both the recreational and commercial fisheries. While effort and markets were impacted by COVID-19 to various degrees, data collection for commercial landings from seafood dealers continued uninterrupted. However, 2020 commercial discard estimates will be affected by missing observer data. The MRIP program used imputation methods to fill gaps in 2020 recreational catch data with data collected in 2018 and 2019.

In 2020, the commercial scup fishery landed 13.58 million pounds (6,160 mt) of scup, about 61% of the 2020 commercial quota of 22.23 million pounds (10,083 mt, Table 3). Commercial dead discard estimates are not available for 2020 due to data gaps resulting from the suspension of the observer program from mid-March through mid-August 2020. As such, it is not currently possible to evaluate commercial catch against the 2020 commercial ACL. At this time it is not clear whether alternative methodologies will be developed to generate 2020 commercial discard estimates.

The COVID-19 pandemic disrupted the recreational Access Point Angler Intercept Survey (APAIS). All Mid-Atlantic states suspended APAIS sampling starting in late March or April 2020. States resumed sampling 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 it will seek to revise its 2020 catch estimates. According to these imputed MRIP estimates, recreational landings in 2020 were 12.91 million pounds (5,856 mt) which was 198% of the 2020 RHL of 6.51 million pounds. Recreational dead discard estimates in weight are not available for 2020 as the method for estimating the weight of discards relies on age and length information that is not complete at this time.

The 2019 MRIP estimate could not be compared to the 2019 RHL as the RHL was set using an assessment that did not include the revised MRIP estimates. However, in 2020, the RHL and recreational harvest estimates both used the revised MRIP estimates and can be compared. 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 commercial scup quota is allocated among three quota periods: Winter I (January 1 – April 30, allocated 45.11% of the annual quota), Summer (May 1 – September 30, allocated 38.95% of the annual quota), and Winter II (October 1 – December 31, allocated 15.94% of the annual quota).³ Based on preliminary 2021 dealer data, about 63% of the 2021 Winter I commercial scup quota was landed. As of June 23, 2021, 21% of the Summer commercial scup quota had been landed (Table 4).

Table 3: Scup commercial and recreational landings relative to quotas and RHLs (in millions of pounds), 2016-2020. The RHL overage/underage evaluation is based on recreational harvest estimates using the old MRIP-estimation methodology through 2018. In 2019 the RHL was based on the old MRIP estimates and harvest was estimated using the revised MRIP estimates so are not comparable. In 2020, the RHL and harvest both used the revised MRIP estimates and can be compared.

Year	Com. landings	Com. quota	Quota underage	Rec. harvest (old MRIP estimates)	RHL	RHL overage/underage	Rec. harvest (new MRIP estimates)
2016	15.76	20.47	-23%	4.26	6.09	-30%	10.00
2017	15.44	18.38	-16%	5.42	5.50	-1%	13.53
2018	13.37	23.98	-44%	5.61	7.37	-24%	12.98
2019	13.78	23.98	-43%	N/A	7.37	--	14.12
2020	13.58	22.23	-39%	N/A	6.51	+98%	12.91

³ Prior to 2018, October was included in the summer quota period. The allocation percentages were the same as shown above.

Table 4: Commercial scup landings during the 2021 Winter I and Summer quota periods (as of the week ending June 23, 2021), according to preliminary data from NMFS weekly landings reports. The Winter I quota is a coast-wide quota. The Summer period quota is allocated among states under the Commission’s FMP.

State	Winter I Landings (pounds) January 1 – April 29, 2021	Summer Landings (pounds) May 1 – June 23, 2021
Maine	0	0
New Hampshire	0	0
Massachusetts	179,676	140,367
Rhode Island	1,236,421	858,799
Connecticut	175,873	78,717
New York	2,022,507	603,941
New Jersey	1,836,231	10,624
Delaware	0	0
Maryland	58,663	C
Virginia	261,361	98
North Carolina	45,832	704
Total landings	5,816,564	1,693,103
Quota	9,247,904	7,985,056
Percent of Quota	63%	21%

Stock Status and Biological Reference Points

A scup management track stock assessment was peer reviewed and accepted in June 2021. This assessment retained the model structure of the previous benchmark stock assessment, completed in 2015,⁴ and incorporated fishery catch and fishery-independent survey data through 2019. The following information is based on the prepublication draft of the July 2021 management track assessment prepared for use by the Council and SSC.⁵

The updated fishing mortality reference point is $F_{MSY} \text{ proxy} = F_{40\%} = 0.200$ and the updated biomass reference point is $SSB_{MSY} \text{ proxy} = SSB_{40\%} = 198.458$ million pounds (90,019 mt). The minimum biomass threshold of $\frac{1}{2} SSB_{MSY} \text{ proxy} = \frac{1}{2} SSB_{40\%} = 99.230$ million pounds (45,010 mt, Table 5).

According to the 2021 assessment, the scup stock north of Cape Hatteras, North Carolina extending north to the US-Canada border was not overfished and overfishing was not occurring in 2019. Spawning stock biomass (SSB) was estimated to be about 389 million pounds (176,404 mt) in 2019, about 2 times the $SSB_{MSY} \text{ proxy}$ reference point of 198.458 million pounds (90,019 mt, Figure 1), meaning that the stock was not overfished in 2019. Fishing mortality on fully selected age 4 scup was 0.136 in 2019, about 68% of the $F_{MSY} \text{ proxy}$ reference point of 0.200 (Figure 2), meaning that overfishing was not occurring in 2019. The 2015 year class is estimated to be the largest in the time series at 415 million fish, while the 2017-2019 year classes are estimated to be below average, with the 2019 year class as the smallest in the time series (Figure 1).

⁴ 60th Northeast Stock Assessment Workshop (2015) assessment report and peer review summaries are available at: <https://www.nefsc.noaa.gov/saw/reports.html>

⁵ Available at: <https://www.mafmc.org/council-events/2021/ssc-july-21-23>

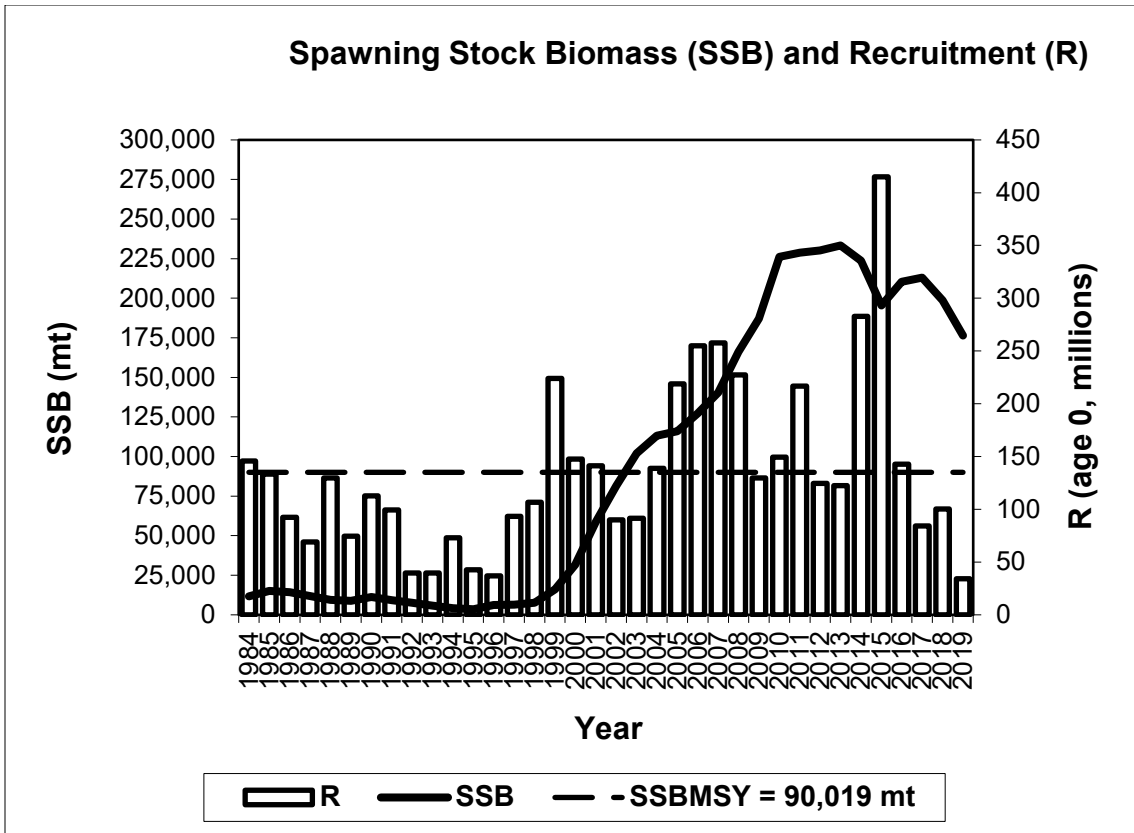


Figure 1: Scup SSB and recruitment at age 0, 1984-2019 from the 2021 management track stock assessment.

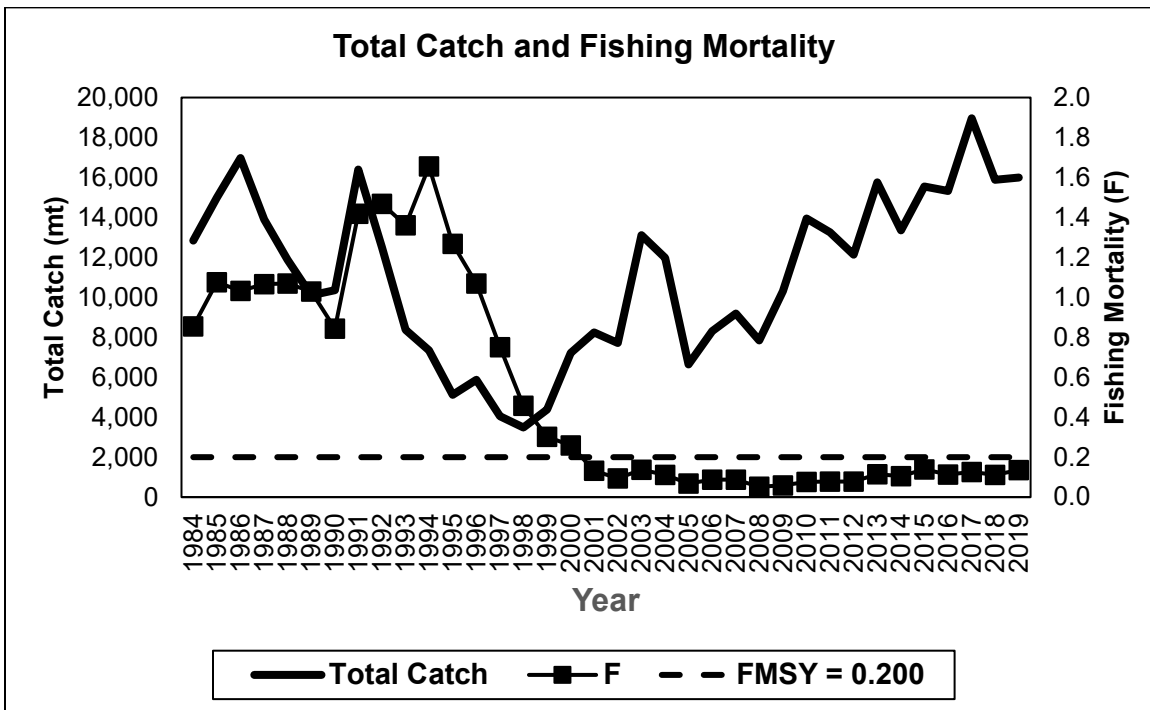


Figure 2: Scup total catch and fishing mortality, 1984-2019 from the 2021 management track stock assessment.

Table 5: Scup biological reference points from the 2019 operational stock assessment and 2021 management track stock assessment.

Reference Points and terminal year SSB and F estimates	2019 operational stock assessment⁶ <i>Data through 2018</i>	2021 management track assessment⁷ <i>Data through 2019</i>
SSB _{M_{SY}} proxy = SSB _{40%} (biomass target)	207.28 mil lb/ 94,020 mt	198.46 mil lb/ 90,019 mt
$\frac{1}{2}$ SSB _{M_{SY}} (biomass threshold defining an overfished status)	103.639 mil lb/ 47,010 mt	99.23 mil lb/ 45,010 mt
Terminal year SSB	411 mil lb/186,578 mt 198% of SSB _{M_{SY}}	388.90 mil lb/ 176,404 mt 196% of SSB _{M_{SY}}
F _{M_{SY}} proxy = F _{40%} (threshold defining overfishing)	0.215	0.200
Terminal year F	0.158 27% below F _{M_{SY}}	0.136 32% below F _{M_{SY}}

Review of Prior SSC Recommendations

In September 2019, the SSC recommended, and the Council and Board adopted 2020 and 2021 ABCs for scup based on new stock status information and projections from the 2019 operational assessment. The revised 2020 measures were implemented via final rule May 15, 2020 (85 FR 29345). In December 2019, the Council adopted revisions to its risk policy. These revisions modified the ABC control rule to allow for a greater acceptable risk of overfishing at most biomass levels, while maintaining a risk of overfishing below 50% for all stocks. In July 2020, the SSC recommended that the 2021 ABC should be modified in accordance with the revised risk policy.

The SSC recommended that a CV of 60% be applied to the OFL estimate to derive the ABC for scup. This decision came from the high data quality and giving high weight to the OFL CV criterion, as well as consistency of signals from surveys, catch at age, and model results. There was also a relatively low effect of revised MRIP estimates in the stock assessment; only minor retrospective patterns in the statistical catch-at-age model; and the unlikelihood that additional adjustments (e.g., for ecological factors or below-average recruitment in the past two years) would increase uncertainty. Several surveys show declines or low abundance in early years to record lows in the mid-1990s and increases in abundance thereafter. Age structure in surveys shows a decline or low abundance of older ages in survey catches in early years and increases in abundance of older ages in recent years. Age structure in commercial landings-at-age and recreational landings-at-age show similar trends of increasing abundance of older ages in the stock. Several large recruitment events have been indicated by survey indices. In combination, these trends are

⁶ A prepublication copy of the August 2019 operational stock assessment report prepared for the Council and the SSC is available at: <http://www.mafmc.org/ssc-meetings/2019/september-9-11>

⁷ Available at: <https://www.mafmc.org/council-events/2021/ssc-july-21-23>

consistent with lower fishing mortality rates in recent years, and increasing stock abundance as indicated by model results. Although up to 40% of the catch weight is attributable to the recreational fishery, the increase in recreational catch related to new MRIP estimates is relatively low in comparison to other stocks.

In December 2019, the Council adopted revisions to its risk policy. These revisions modified the ABC control rule to allow for a greater acceptable risk of overfishing at most biomass levels, while maintaining a risk of overfishing below 50% for all stocks. In light of these changes, in July 2020, the SSC recommended an ABC of 15,791 mt for the 2021 fishing season, based on the Council’s revised risk policy ($P^* = 0.49$). The SSC noted that, although stock biomass remained well above B_{MSY} , indices of recruitment and stock biomass have declined in recent years. At the same time, total removals in 2019 were below ABC and the removals in 2020 were likely to be below the ABC as well.

Table 6 shows the previously approved OFLs and ABCs and the revised 2021 ABC. ABCs are based on projections that assume the ABC will be fully caught in each year; recruitment is sampled from 1984-2018. OFL total catches are catches in each year fishing at $F_{MSY} = 0.215$, prior to calculation of the associated annual ABC. The ABC projections were based on application of the Council’s risk policy for a stock with a typical life history, resulting in an ABC P^* of 40% in each year. As previously stated and described in more detail below, the Council has since revised their risk policy.

Table 6: Previously approved 2020 and 2021 OFLs, ABCs, and P^* followed by the revised 2021 ABC and P^* in response to changes in the Council’s risk policy (Source: personal communication, Mark Terceiro, Northeast Fisheries Science Center).

Year	OFL total catch		ABC total catch		ABC P^*
	mil lb	mt	mil lb	mt	
2020	41.17	18,674	35.77	16,227	0.40
2021 initial	35.30	16,012	30.67	13,913	0.40
2021 revised	35.30	16,012	34.81	15,791	0.49

The SSC considered the following to be the most significant sources of uncertainty in the 2019 operational assessment:⁸

- Following the record 2015 year class, recruitments in 2016, 2017, and 2018 have all been below the time series mean. If this trend continues, short-term projections, which assume random values from the recruitment distribution over the 1984-2018 time series, may overestimate allowable catches absent additional high recruitments. However, the stock is currently above the target level, so reduction back to the target biomass would be expected.
- The scup Statistical Catch at Age uses multiple selectivity blocks. The final selectivity block (2006-2018) is the longest in the model. The applicability of the most recent selectivity block to the current fishery condition is uncertain. If the fishery selectivity implied in this block changes,

⁸A summary of the September 2019 SSC meeting is available at: <https://www.mafmc.org/ssc-meetings/2019/september-9-11>

estimates of stock number, spawning stock biomass, and fishing mortality become less reliable.

- Most of the fishery-independent indices used in the model provide estimates of the abundance of scup < age 3. One consequence is that much of the information on the dynamics of scup of older ages arise largely from the fishery catch-at-age and from assumptions of the model, and are not conditioned on fishery-independent observations. As a result, the dynamics of these older fish remain uncertain. Knowledge of the dynamics of these older age classes will become more important as the age structure continues to expand.
- The projection on which the ABC was determined is based on an assumption that the quotas would be landed in 2019, 2020, and 2021.

The SSC also retained the following sources of uncertainty from the 2015 benchmark assessment:⁹

- Uncertainty exists with respect to the estimate of natural mortality used in the assessment.
- Uncertainty exists as to whether the MSY proxies (SSB_{40%}, F_{40%}) selected and their precisions are appropriate for this stock.
- Survey indices are particularly sensitive to scup availability, which results in high inter-annual variability. Efforts were made to address this question in the Stock Assessment Workshop and Stock Assessment Review Committee (SAW/SARC) that should be continued.

Staff Recommendation for 2022-2023 ABCs

The ABC projections sample from the estimated recruitment for 1984-2019 and assume the 2020-2021 ABCs were caught (Table 7 and Table 8). The ABC projections are based on application of the Council's risk policy, resulting in an ABC P* of 49% for the varying ABC approach and an average P* of 49% (2022-2023) for the averaged ABC approach. A CV of 60% was applied to the OFL, consistent with past SSC recommendations.

The SSC has been asked to recommend two sets of ABCs for 2022-2023, one based on assuming varying ABCs each year (Table 7) and one where ABCs are constant based on averaging the ABCs across 2022 and 2023 (Table 8). Whether or not to average the ABCs is a policy decision for the Council and Board. Because the Council is unable to recommend ABCs higher than what the SSC recommends for any given year, the SSC is asked to provide ABC recommendations for both approaches to allow the Council and Board to select their preferred approach.

The projected spawning stock biomass trajectory is similar in either scenario (Table 7 and Table 8) and there are tradeoffs to both ABC approaches. The average ABC approach would allow for stability in catch and landings limits across two years and would allow for a higher 2023 ABC than the standard approach; however, it would require a lower 2022 ABC than under the varying approach due to the declining biomass trajectory. The higher 2022 ABC using the varying approach will require less restriction on the recreational fishery in 2022 compared to the averaged approach and may allow time to address potential allocation issues associated with the much higher recreational harvest than previously known (e.g. Table 2). However, it will require a greater restriction of total catch in 2023 compared to the averaged approach and thus more restriction of the recreational fishery if sector allocations remain status quo. The commercial fishery has had 16-44% quota underages in the past 5 years. In 2019, the Council and Board recommended

⁹A summary of the July 2015 SSC meeting is available at: <http://www.mafmc.org/ssc-meetings/2015/july-21-23>

the varying ABC approach for 2020-2021 measures under similar decreasing biomass conditions and ongoing allocation discussions. For these reasons, staff recommend that the Council and Board adopt ABCs for 2022-2023 based on the varying ABC approach.

Updated estimates of SSB, F, and recruitment are expected to be available in 2023 to inform 2024-2025 specifications. Unless an interim data update (i.e., updated fishery and survey data without updated estimates of SSB, F, and recruitment) shows strong signals of unexpected changes in the stock, it is unlikely that the 2023 catch and landings limits will be updated in 2022 based on biological, fishery, or survey data.

Table 7. Scup 2021 management track assessment projections for varying 2022-2023 ABCs, including OFL and ABC total catch, ABC projected F, and projected SSB. These projections assume application of the current Council risk policy with a 60% OFL CV.

Year	OFL Total Catch		ABC Total Catch		ABC F	ABC P*	SSB	
	mil lb	mt	mil lb	mt			mil lb	mt
2021	39.69	18,005	34.81	15,791	0.166	0.406	383.59	173,993
2022	32.56	14,770	32.11	14,566	0.197	0.490	346.01	156,947
2023	30.09	13,648	29.67	13,460	0.197	0.490	307.88	139,650

Table 8. Scup 2021 management track assessment projections for averaged 2022-2023 ABCs, including OFL and ABC total catch, ABC projected F, and projected SSB. These projections assume application of the current Council risk policy with a 60% OFL CV.

Year	OFL Total Catch		ABC Total Catch		ABC F	ABC P*	SSB	
	mil lb	mt	mil lb	mt			mil lb	mt
2021	39.69	18,005	34.81	15,791	0.166	0.406	383.59	173,993
2022	32.56	14,770	30.89	14,013	0.189	0.462	346.49	157,165
2023	30.22	13,708	30.89	14,013	0.205	0.516	304.16	137,963

Other Management Measures

The Council and Board are currently developing an amendment to reconsider the allocation of catch or landings between the commercial and recreational sectors for summer flounder, scup, and black sea bass.¹⁰ Final action on this amendment is scheduled for December 2021 and any changes are expected to be implemented starting in 2023. Thus, while the below discussion of sector specific limits for 2023 assumes the current allocations will apply in 2023, this may not necessarily be the case, and 2023 limits may need revisions based on any allocation changes made by the Council and Board. Allocation changes would not impact the ABCs discussed above.

Commercial and Recreational Annual Catch Limits (ACLs)

As specified in the FMP, 78% of the ABC is allocated to the commercial fishery as a commercial ACL

¹⁰ <http://www.mafmc.org/actions/sfsbsb-allocation-amendment>

and 22% is allocated to the recreational fishery as a recreational ACL (Figure 3). The ABC allocation percentages were implemented through Amendment 8 (1996) and first came into effect in 1997. These allocations were based on the proportions of commercial and recreational catch during 1988-1992 and cannot be modified without an FMP action such as an amendment. ACLs include both landings and discards. For the averaged ABC approach, staff recommend averaging the expected discards and landings across the two years given minor differences in these projections, to ensure that all limits would be held constant over the two years (see Table 2).

Dead discards are typically apportioned based on the dead discards contribution from each fishing sector using a 3-year moving average percentage. Due to data issues related to COVID-19, dead discard data are not currently available for 2020 for the commercial or recreational fisheries. As such, recommendations for the split of projected dead discards between the commercial and recreational fisheries were developed using 2017-2019 data from the management track assessment. On average over these years, 83% of dead discards were attributable to the commercial fishery and 17% to the recreational fishery.

The allocated landings for each sector are added to the expected sector-specific dead discards to arrive at the commercial and recreational ACLs. Any deductions for management uncertainty (see below) would be deducted from the sector-specific ACLs to arrive at the sector-specific ACTs. Expected dead discards are subtracted from the sector ACTs to derive the commercial quota and RHL in each year.

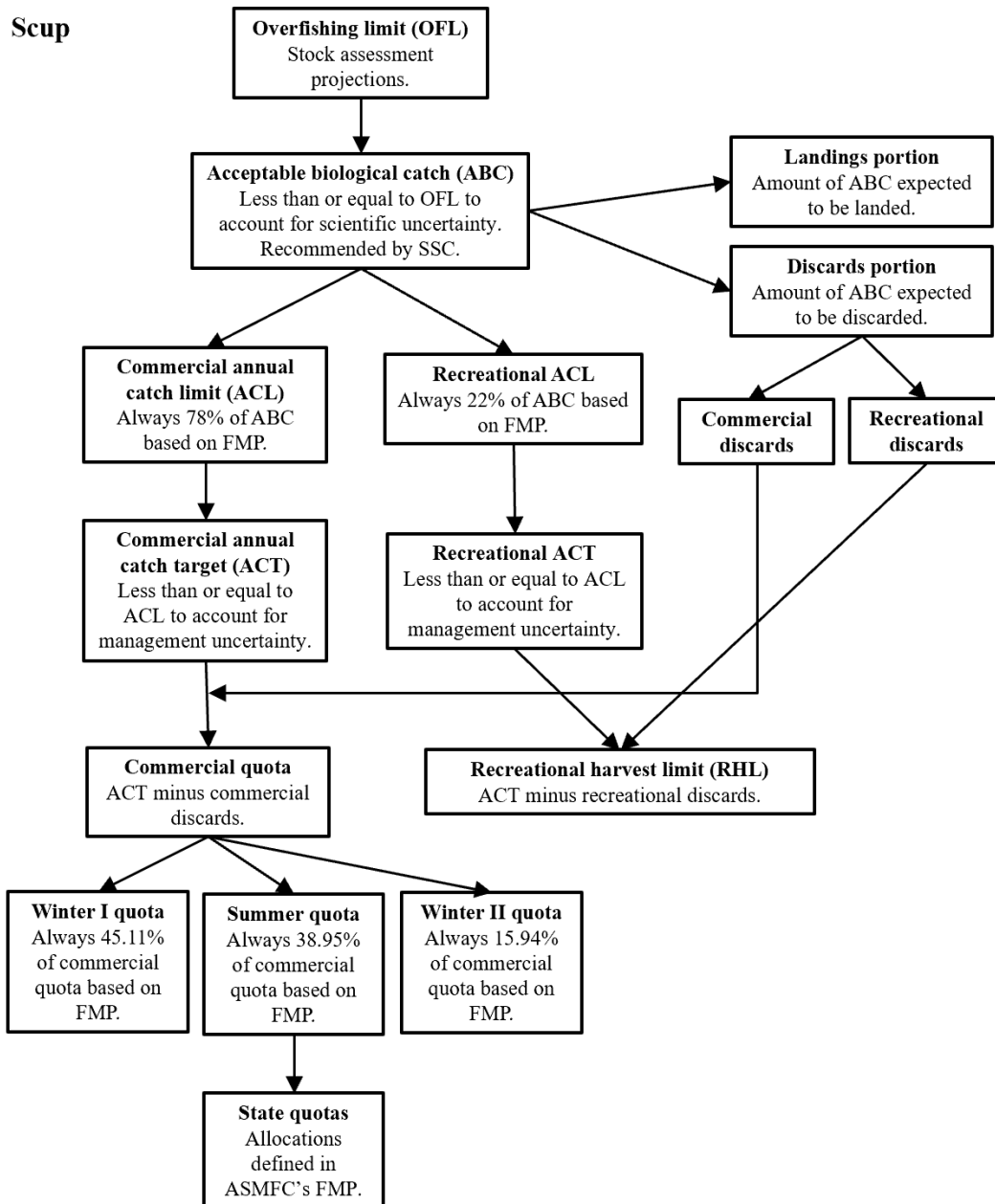


Figure 3: Scup catch and landings limit calculation methodology.

Annual Catch Targets (ACTs)

The Monitoring Committee recommends ACTs for the Council and Board’s consideration. ACTs may be either equal to the ACLs or reduced from the ACLs to account for management uncertainty. Management uncertainty can include uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e. estimation errors). This can occur due to a lack of sufficient information about catch (e.g. due to late reporting, under-reporting, and/or misreporting of landings or discards) or due to a lack of management precision (i.e. the ability to constrain catch to desired levels).

The sector-specific landings performance for recent years is shown in Table 3; however, note that the recreational fishery data includes the old MRIP estimates given that past RHLs were set with assessment information based on the pre-calibration recreational time series. For this reason, the new MRIP data cannot reasonably be compared to past RHLs. From 2015-2018, commercial and recreational landings were consistently below the quota and RHL. MRIP data using the old methodology is unavailable for 2019; therefore, RHL performance cannot be evaluated for 2019. Data for 2020 are from the revised MRIP methodology and can be compared to the 2020 limits given that they were set using the new assessment which incorporated revised MRIP information. The commercial quota monitoring system is timely and typically successful in constraining landings to the commercial quota.

The Council and Board are considering a number of potential changes to recreational fisheries management through the Recreational Reform Initiative, with the goal of providing 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. This is an ongoing effort. Specific changes could include greater consideration of stock status when setting recreational management measures, better addressing uncertainty in the MRIP data, and other changes.

For 2022-2023, staff recommend no reduction in catch from the recreational or commercial ACLs so that each sector's ACT is set equal to the ACL (Table 2).

Commercial Quotas and Recreational Harvest Limits (RHLs)

Projected discards are removed from the sector-specific ACTs to derive landings limits, which include annual commercial quotas and RHLs (Figure 3). For 2022-2023, the staff recommendation for a varying ABC approach in combination with the ACT and discard assumptions outlined above would result in a commercial quotas of 20.38 million pounds in 2022 and 17.87 million pounds in 2023 and RHLs of 6.08 million pounds in 2022 and 5.41 million pounds in 2023. Under the averaged ABC approach, the commercial quota would be 19.11 million pounds in 2022-2023, while the RHL would be 5.74 million pounds in 2022-2023 (Table 2). These calculations are dependent on the ABC recommendations of the SSC and may vary if the SSC adopts different recommendations than outlined in this memo.

Under the recommended commercial quota, the Winter I quota would be 9.19 million pounds, the Summer quota would be 7.94 million pounds, and the Winter II quota would be 3.25 million pounds in 2022. The 2023 Winter I quota would be 8.06 million pounds, the Summer quota would be 6.96 million pounds and the Winter II quota would be 2.85 million pounds. All Winter II quotas are prior to any quota rollover from Winter I, if applicable.

Commercial Winter I and Winter II Quota Period Possession Limits

Commercial possession limits are designed to help constrain landings to the seasonal period quotas. The Winter I possession limit is 50,000 pounds. After 80% of the Winter I quota is landed, the possession limit drops to 1,000 pounds. The Winter II possession limit is initially set at 12,000 pounds. If the Winter I quota is not fully harvested, as has been the case in recent years, the Winter II possession limit increases by 1,500 pounds for every 500,000 pounds of scup not landed during the Winter I period. There are no federal possession limits during the Summer quota period; however, there are state possession limits.

The quota period possession limits have not been modified since 2012, when the Winter I limit increased from 30,000 to 50,000 pounds and 2014 when the initial Winter II limit increased from 2,000 to 12,000

pounds. In 2018, the Council and Commission moved October from the Summer period to the Winter II period, resulting in a higher trip limit being in effect during that month.

In 2021, the Council received a proposal from Lund's Fisheries requesting that the Monitoring Committee consider either removing the Winter I possession limit or increasing it from 50,000 pounds to 100,000 pounds in 2022.¹¹ Staff will include additional discussion and recommendations related to this proposal in materials for the July 27, 2021 Monitoring Committee meeting where the group will be asked to recommend commercial measures.

Commercial Minimum Fish Size

The minimum size for retention of scup in the commercial fishery is 9 inches total length. This regulation applies to all commercial landings of scup, including landings of incidental catch. This measure was first implemented in 1996, when scup were first managed by the Council and Commission. The Council and Board considered modifying this measure in 2005, 2012, and in 2015. After reviewing this measure in detail 2015, the Monitoring Committee, Council, and Board all recommended no changes. The rationale for this recommendation is described in the Summer Flounder, Scup, and Black Sea Bass Commercial Management Measures Review document from 2015.¹² In the past, advisors have expressed differing opinions on the commercial minimum fish size for scup.

In 2021, the Council received a proposal from Lund's Fisheries requesting that the Monitoring Committee consider reducing the minimum size from 9 inches to 8 inches.¹⁰ Staff will include additional discussion and recommendations related to this proposal in materials for the July 27, 2021 Monitoring Committee meeting where the group will be asked to recommend commercial measures.

Commercial Trawl Mesh Size

Trawl vessels which possess more than 1,000 pounds of scup from October 1 through April 14, more than 2,000 pounds of scup from April 15 through June 15, and more than 200 pounds of scup from May 1 through August 31 must use a minimum mesh size of 5.0 inches. These regulations were modified in 2015 (effective in 2016) and 2018 (effective in 2019). In late 2015, the Council approved an increase in the November-April incidental limit from 500 to 1,000 pounds in recognition of the substantial increase in SSB and expansion of the age structure of the population since this measure was last modified in 2004. In August 2019, the Council approved an increase in the incidental scup possession limit during April 15-June 15 to 2,000 pounds to decrease discards in the spring inshore squid fisheries.

The Council recently funded a project which analyzed the selectivity of multiple codend mesh sizes relative to summer flounder, black sea bass and scup retention in the commercial bottom trawl fishery in the Mid-Atlantic region. 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 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

¹¹ https://www.mafmc.org/s/Lunds_scup_request2021.pdf

¹² The Summer Flounder, Scup, and Black Sea Bass Commercial Management Measures Review is available at: <http://www.mafmc.org/briefing/december-2015>

undersized fish.

The Monitoring Committee reviewed the results of this study in 2018 and recommended no changes to the commercial minimum mesh sizes for 2021. They recommended clarification of the objectives of the Council 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). Input from the commercial fishing industry should be sought before any minimum mesh size changes are considered.

Staff will continue to work with the Monitoring Committee and Advisory Panel to further analyze and consider potential changes to mesh size regulations. Currently, staff recommend no changes to the scup minimum mesh sizes and associated possession limits for 2022.

Commercial Pot and Trap Regulations

NMFS dealer data show that pots/traps accounted for about 5% of scup commercial landings in 2019. Pots and traps used in the commercial scup fishery must have either a circular escape vent with a 3.1 inch minimum diameter or square or rectangular escape vents with each side being at least 2.25 inches in length. The Council and Commission hosted a workshop in 2005 to review several studies on vent size. Workshop participants did not recommend any changes in the vent sizes for the commercial scup fishery. The Monitoring Committee reviewed these measures in 2015 and recommend no changes. Staff recommend no changes to these measures for 2022.

Recreational Seasons, Possession Limits, and Minimum Size

The Council and Board will discuss 2022 recreational scup seasons, possession limits, and minimum fish sizes at their joint meeting in December 2021. Data from the first four “waves” (i.e. the two-month reporting increments for recreational data) of 2021 recreational landings are expected to be available in October 2021. The Monitoring Committee will meet in November to review these landings data and make recommendations for any necessary changes in recreational management measures. Staff have no recommendations for 2022 recreational management measures at this time.

Scup Management Track Assessment for 2021
(Lead: Mark Terceiro)

State of Stock: This 2021 Management Track Assessment (MTA) of scup (*Stenotomus chrysops*) is an update through 2019 of the commercial and recreational fishery catch data and any available research survey indices of abundance. Assessment model estimates of stock size and fishing mortality are updated through 2019.

The stock was not overfished and overfishing was not occurring in 2019 relative to the updated biological reference points (Figure 1). Spawning stock biomass (SSB) was estimated to be 176,404 mt in 2019, about 2 times the updated biomass target reference point $SSB_{MSY\ proxy} = SSB_{40\%} = 90,019$ mt (Table 1, Figure 2). There is a 90% chance that SSB in 2019 was between 154,000 and 210,000 mt. Fishing mortality on the fully selected age 4 fish was 0.136 in 2019, 68% of the updated fishing mortality threshold reference point $F_{MSY\ proxy} = F_{40\%} = 0.200$ (Table 1, Figure 3). There is a 90% probability that the fishing mortality rate in 2019 was between 0.106 and 0.166. The average recruitment from 1984 to 2019 is 136 million fish at age 0. The 2015 year class is estimated to be the largest in the time series at 415 million fish, while the 2017-2019 year classes are estimated to be below average, with the 2019 year class the smallest in the time series (Table 1, Figures 2 and 4).

The model estimate of SSB in 2019 adjusted for internal retrospective error (-14.4%) is within the model estimate 90% confidence interval. The model estimate of F in 2019 adjusted for internal retrospective error (+20.2%) is also within the model estimate 90% confidence interval. Therefore, no adjustment of these terminal year estimates has been made for stock status determination or projections. While the stock sustained catches above MSY during 2013-2019, stock biomass is projected to decrease toward the target unless more above average year classes recruit to the stock in the short term.

OFL Projections: Projections using the results of the 2021 MTA model (data through 2019) were made to estimate the OFL catches for 2022-2023. The projections assume that the 2020 and 2021 ABCs of 16,227 mt and 15,791 mt were caught and sample from the estimated recruitment for 1984-2019. **The preliminary estimate of 2020 catch is 15,226 mt, 94% of the 2020 ABC.** The OFL projection uses $F_{2022-2023} = \text{updated } F_{MSY\ proxy} = F_{40\%} = 0.200$. The OFL catches are 14,770 mt in 2022 (CV = 18%) and 13,626 mt in 2023 (CV = 18%).

Year	Catch	OFL for 2022-2023			
		Catches and SSB in metric tons		F	SSB
		Landing	Discards		
2020	16,227	14,300	1,927	0.137	191,096
2021	15,791	13,799	1,992	0.166	173,993
2022	14,770	12,112	2,658	0.200	156,850
2023	13,626	10,596	3,030	0.200	139,337

Catch: Reported 2019 commercial landings were 6,252 mt = 13.783 million lb. Estimated 2019 recreational landings were 6,403 mt = 14.116 million lb. Total commercial and recreational landings in 2019 were 12,655 mt = 27.899 million lb. Estimated 2019 commercial discards were 2,779 mt = 6.127 million lb. Estimated 2019 recreational discards were 560 mt = 1.235 million lb. The estimated total catch in 2019 was 15,994 mt = 35.261 million lb (Catch and Status Table below; Table 2). MSY is estimated to be 12,054 mt = 26.575 million lb.

Catch and Status Table: Scup

Catch weights in metric tons (mt); spawning stock biomass thousands of metric tons; recruitment in millions of age 0 fish; min, max and arithmetic mean values are for 1981/1984-2019. Commercial catches are latest reported landings and estimated discards. Recreational catches are ‘New’ MRIP calibrated landings and discards estimates.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Commercial landings	4,866	6,819	6,751	8,105	7,239	7,725	7,147	7,007	6,064	6,252
Commercial discards	2,639	1,236	1,002	1,350	981	1,718	2,778	4,733	3,293	2,779
Recreational landings	5,660	4,682	3,751	5,739	4,659	5,527	4,536	6,143	5,887	6,403
Recreational discards	787	516	636	568	480	581	862	1,079	644	560
Catch used in assessment	13,952	13,253	12,139	15,762	13,359	15,550	15,332	18,961	15,888	15,994
Spawning stock biomass	226	229	230	233	224	195	210	213	199	176
Recruitment (age 0)	149	217	125	122	283	415	143	84	100	34
Full F (age 4)	0.076	0.079	0.078	0.115	0.105	0.140	0.114	0.126	0.111	0.136

Year	Min	Max	Mean
Commercial landings	1,207	8,105	4,887
Commercial discards	436	4,733	1,819
Recreational landings	824	6,430	3,893
Recreational discards	30	1,079	336
Catch used in assessment	3,485	18,961	11,430
Spawning stock biomass	4	233	95
Recruitment (age 0)	34	415	136
Full F (age 4)	0.052	1.655	0.525

Stock Distribution and Identification: The Mid-Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASMFC) Joint Fishery Management Plan defines the management unit as all scup from Cape Hatteras, North Carolina northeast to the US-Canada border (MAFMC 1999).

Assessment Model: The assessment model for scup 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 2015). The model assumes an instantaneous natural mortality rate (M) = 0.2. The fishery catch is modeled as four fleets: commercial landings, recreational landings, commercial discards and recreational discards.

Indices of stock abundance from NEFSC winter, spring, and fall, Massachusetts DMF spring and fall, Rhode Island DFW spring and fall, University of Rhode Island Graduate School of Oceanography (URIGSO), RI Industry Cooperative trap, Connecticut DEEP spring and fall, New York DEC, New Jersey DFW, Virginia Institute of Marine Science (VIMS) Chesapeake Bay, VIMS juvenile fish trawl, and NEAMAP spring and fall trawl surveys were used in the 2015 SAW 60 benchmark assessment (NEFSC 2015) and the 2017 (NEFSC unpublished report to the MAFMC SSC) and 2019 (NEFSC 2020) Operational Assessment updates. All indices were updated for this assessment.

There is a minor retrospective pattern evident in the scup assessment model. The internal model retrospective error tends to underestimate SSB by -14.4% and overestimate F by +20.2% over the last 7 terminal years. The model estimate of SSB in 2019 adjusted for internal retrospective error (201,806 mt) is within the model estimate 90% confidence interval (154,192 mt; 210,285 mt). The model estimate of F in 2019 adjusted for internal retrospective error (0.109) is within the model estimate 90% confidence interval (0.106; 0.166). Therefore, no adjustment of these terminal year estimates has been made for stock status determination or projections.

The ‘historical’ retrospective analysis (comparison between assessments) indicates that the general trends in spawning stock biomass, recruitment, and fishing mortality have been consistent over the history of the assessment (Figure 5).

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 1984-2019 recruitment (corresponding to the period of input fishery catches-at-age) was re-sampled to provide future recruitment estimates for the projections used to estimate the biomass reference point.

The existing biological reference points for scup are from the 2019 Operational Assessment (NEFSC 2020). 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 $F_{MSY} = 0.215$; the proxy estimate for $SSB_{MSY} = SSB_{40\%} = 94,020$ mt = 207.279 million lb; the proxy estimate for the $\frac{1}{2}$ SSB_{MSY} biomass threshold = $\frac{1}{2}$ $SSB_{40\%} = 47,010$ mt = 103.639 million lb; and the proxy estimate for $MSY = MSY_{40\%} = 12,927$ mt = 28.499 million lb.

The $F_{40\%}$ and corresponding $SSB_{40\%}$ proxy biological reference points for scup were updated for this assessment. The updated fishing mortality threshold $F_{40\%}$ proxy for $F_{MSY} = 0.200$. The updated biomass target proxy estimate for $SSB_{MSY} = SSB_{40\%} = 90,019$ mt = 198.458 million lb and the updated biomass threshold proxy estimate for $\frac{1}{2}$ $SSB_{MSY} = \frac{1}{2}$ $SSB_{40\%} = 45,010$ mt = 99.230 million lb. The

updated proxy estimate for $MSY = MSY40\% = 12,671 \text{ mt} = 27.935 \text{ million lb.}$

Qualitative status description:

The age structure in current fishery and survey catches is greatly expanded compared to the truncated distribution observed in the early 1990s. Most survey aggregate biomass indices have recently been near their time series high. Survey indices suggest the recruitment of several large year classes during 2000-2015. These simple metrics indicate that mortality from all sources was lower than recruitment inputs to the stock during this period, which has resulted in a spawning stock biomass that is well above the management target. The high stock biomass sustained catches above MSY during 2013-2019. However, most recent indices suggest the 2017-2019 year classes are below average. Spawning stock biomass is projected to decrease toward the target unless more above average year classes recruit to the stock in the short term.

Research and Data Issues:

2015 SAW 60

A standardized fishery dependent CPUE of scup targeted tows, from either NEFOP observer samples or the commercial study fleet, might be considered as an additional index of abundance to complement survey indices in future benchmark assessments: *completed for 2015 SAW 60, CPUE indices not included model calibration*

Explore additional sources of length/age data from fisheries and surveys in the early parts of the time series to provide additional context for model results: *no success, likely alternative is to begin model in 1984 in next RTA*

Explore experiments to estimate the catchability of scup in NEFSC and other research trawl surveys (side-by-side, camera, gear mensuration, acoustics, etc.): *no progress*

Refine and update the Manderson *et al.* availability analysis when/if a new ocean model is available (need additional support). Explore alternative niche model parameterizations including laboratory experiments on thermal preference and tolerance: *no progress*

Explore the Study fleet data in general for information that could provide additional context and/or input for the assessment: *completed for 2015 SAW 60, CPUE indices not included model calibration*

A scientifically designed survey to sample larger and older scup would likely prove useful in improving knowledge of the relative abundance of these large fish: *no progress*

2019 OA

The recent recruitment of the largest year class in the assessment time series (the 2015 year class) has contributed to recent high commercial fishery discards. The exploration of management actions to reduce discarding in the event of future high recruitment events might include modification of the commercial fishery Gear Restricted Areas and modified commercial mesh sizes: *considered annually as part of the*

specifications process

There is evidence of a decreasing trend in mean weights at age and maturity, perhaps indicative of density dependent effects. Potential effects on reference points and projected fishery yield should continue to be closely monitored: *ongoing monitoring in assessment*

MAFMC SSC 2019-2020

Characterize the pattern of selectivity for older ages of Scup in both surveys and Fisheries: *ongoing estimation in assessment*

Explore the applicability of the pattern of fishery selectivity in the model to the most recent catch data to determine whether a new selectivity block in the model is warranted: *updated in 2021 MTA – new 2013+ selectivity block added to model*

Mean weights-at-age have declined and age-at-maturity has increased slightly (the proportion mature at age 2 has decreased) in recent years. Continued monitoring of both is warranted: *ongoing monitoring in assessment*

It was conjectured that the increase in stock biomass since 2000 resulted from increased recruitments due to the imposition of gear restriction areas (GRAs), to minimize interactions between Scup and squid fisheries, and from increases in commercial mesh sizes. Long-term climate variation is a potential alternative explanation for increased recruitments from 2000 to 2015. Research to explore the validity of both hypotheses is warranted: *no new research progress*

Improve estimates of discards and discard mortality for commercial and recreational fisheries: *no progress, but no concerns expected if current levels of sampling are maintained*

Evaluate the degree of bias in the catch, particularly the commercial catch: *no stock-specific progress, but GARFO/NEFSC CAMS proposed for 2020+ data*

Conduct experiments to estimate catchability of Scup in NEFSC surveys: *no progress*

Explore the utility of incorporating ecological relationships, predation, and oceanic events that influence Scup population size on the continental shelf and its availability to resource surveys used in the stock assessment model: *no new research progress*

Explore additional source of age-length data from historical surveys to inform the early part of the time series, providing additional context for model results: *no success, likely alternative is to begin model in 1984 in next RTA*

An MSE could evaluate the effectiveness of Scup management procedures: *no progress*

The Scup Statistical Catch at Age assessment model uses multiple selectivity blocks. The final selectivity block (2006-2018) is the longest in the model. The applicability of the most recent selectivity block to the current fishery condition is uncertain. If the fishery selectivity implied in this block changes, estimates of stock number, spawning stock biomass, and fishing mortality become less reliable: *updated in 2021 MTA – new 2013+ selectivity block added to model*

Recruitment indices for Scup have been declining in recent years. The 2021 management track assessment should consider the implications on stock biomass projections should this trend continue: *evaluated in the 2021 MTA assessment model and associated projections*

Most of the fishery-independent indices used in the model provide estimates of the abundance of Scup < age 3. One consequence is that much of the information on the dynamics of Scup of older ages arises largely from the fishery catch-at-age and from assumptions of the model, and are not conditioned on fishery-independent observations. As a result, the dynamics of these older fish remain uncertain. Knowledge of the dynamics of these older age classes will become more important as the age structure continues to expand: *no new research progress, but assessment indicated the abundance of older fish in increasing in fishery and survey catches, and there is evidence of possible density dependent effects on growth and maturity*

The projection on which the ABC was determined assumes that the quotas would be landed in 2019, 2020, and 2021; however, landings in recent years have been below the quotas and perhaps a more realistic assumption should be used in future projections: *given the uncertainty of fishery dynamics and catch estimated for 2020, the 2021 MTA projections assumed the ABCs would be caught in 2020-2021*

Uncertainty exists with respect to the estimate of natural mortality used in the assessment: *no new research progress*

Uncertainty exists as to whether the MSY proxies (SSB40%, F40%) selected and their precisions are appropriate for this stock: *no new research progress*

Survey indices are particularly sensitive to Scup availability, which results in high inter-annual variability. Efforts were made to address this question in the Stock Assessment Workshop and Stock Assessment Review Committee (SAW/SARC) in 2017 that should be continued in the 2021 management track assessment: *no new research progress*

References:

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Northeast Fisheries Science Center (NEFSC). 2020. Operational Assessment of Black Sea Bass, Scup, Bluefish, and Monkfish Stocks, Updated Through 2018. US Dept Commerce, Northeast Fish Sci Cent Ref Doc. 20-01; 160 p.

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Tables

Table 1. Summary assessment results; Spawning Stock Biomass (SSB) in metric tons (mt); Recruitment (R) at age 0 in millions; Fishing Mortality (F) for age of peak fishery selection (S = 1) age 4.

Year	SSB	R	F
1984	11,660	145,686	0.854
1985	15,176	133,452	1.076
1986	14,343	92,479	1.033
1987	11,901	69,155	1.066
1988	9,520	129,722	1.069
1989	8,891	74,488	1.029
1990	11,316	112,867	0.844
1991	9,280	99,376	1.419
1992	7,537	39,627	1.469
1993	5,729	39,796	1.361
1994	4,223	72,976	1.655
1995	3,535	42,726	1.267
1996	6,146	37,025	1.069
1997	6,350	93,345	0.751
1998	7,682	106,668	0.457
1999	16,216	223,962	0.301
2000	31,752	147,688	0.259
2001	58,646	141,201	0.133
2002	81,326	89,909	0.094
2003	102,041	91,455	0.137
2004	113,083	138,744	0.112
2005	115,917	218,815	0.069
2006	127,368	255,024	0.088
2007	140,420	257,622	0.087
2008	166,177	227,491	0.052
2009	187,171	129,655	0.058
2010	226,142	149,488	0.076
2011	228,854	216,850	0.079
2012	230,141	124,572	0.078
2013	233,337	122,412	0.115
2014	223,673	282,838	0.105
2015	195,380	415,041	0.140
2016	210,325	142,853	0.114
2017	213,059	84,306	0.126
2018	198,750	100,436	0.111
2019	176,404	34,113	0.136

Table 2. Total catch (metric tons) of scup from Maine through North Carolina. Commercial discards for 1981-1988 calculated from the mean ratio of discards to landings for 1989-1991.

Year	Commercial Landings	Commercial Discards	Recreational Landings	Recreational Discards	Total Catch
1981	9,856	4,495	5,054	108	19,514
1982	8,704	3,970	3,908	169	16,751
1983	7,794	3,555	3,911	76	15,336
1984	7,769	3,543	1,489	34	12,836
1985	6,727	3,068	5,122	72	14,989
1986	7,176	3,273	6,430	86	16,965
1987	6,276	2,862	4,722	42	13,902
1988	5,943	2,710	3,191	38	11,882
1989	3,984	1,277	4,781	54	10,097
1990	4,571	2,466	3,254	59	10,350
1991	7,081	3,388	5,857	75	16,401
1992	6,259	1,885	4,288	63	12,496
1993	4,726	1,510	2,101	31	8,368
1994	4,392	962	1,964	30	7,348
1995	3,073	974	1,030	38	5,114
1996	2,945	870	2,004	55	5,874
1997	2,188	675	1,152	38	4,053
1998	1,896	705	824	60	3,485
1999	1,505	735	2,098	51	4,390
2000	1,207	592	5,167	249	7,216
2001	1,729	1,671	4,434	417	8,251
2002	3,173	1,284	2,826	427	7,710
2003	4,405	436	7,806	462	13,109
2004	4,209	1,324	5,819	620	11,972
2005	3,711	565	1,949	413	6,637
2006	4,081	896	2,688	639	8,304
2007	4,193	1,364	3,221	407	9,184
2008	2,370	2,254	2,613	608	7,845
2009	3,721	3,184	2,851	552	10,308
2010	4,866	2,639	5,660	787	13,952
2011	6,819	1,236	4,682	516	13,253
2012	6,751	1,002	3,751	636	12,139
2013	8,105	1,350	5,739	568	15,762
2014	7,239	981	4,659	480	13,359
2015	7,725	1,718	5,527	581	15,550
2016	7,147	2,778	4,536	862	15,322
2017	7,007	4,733	6,143	1,079	18,961
2018	6,064	3,293	5,887	644	15,888
2019	6,252	2,779	6,403	560	15,994

Figures

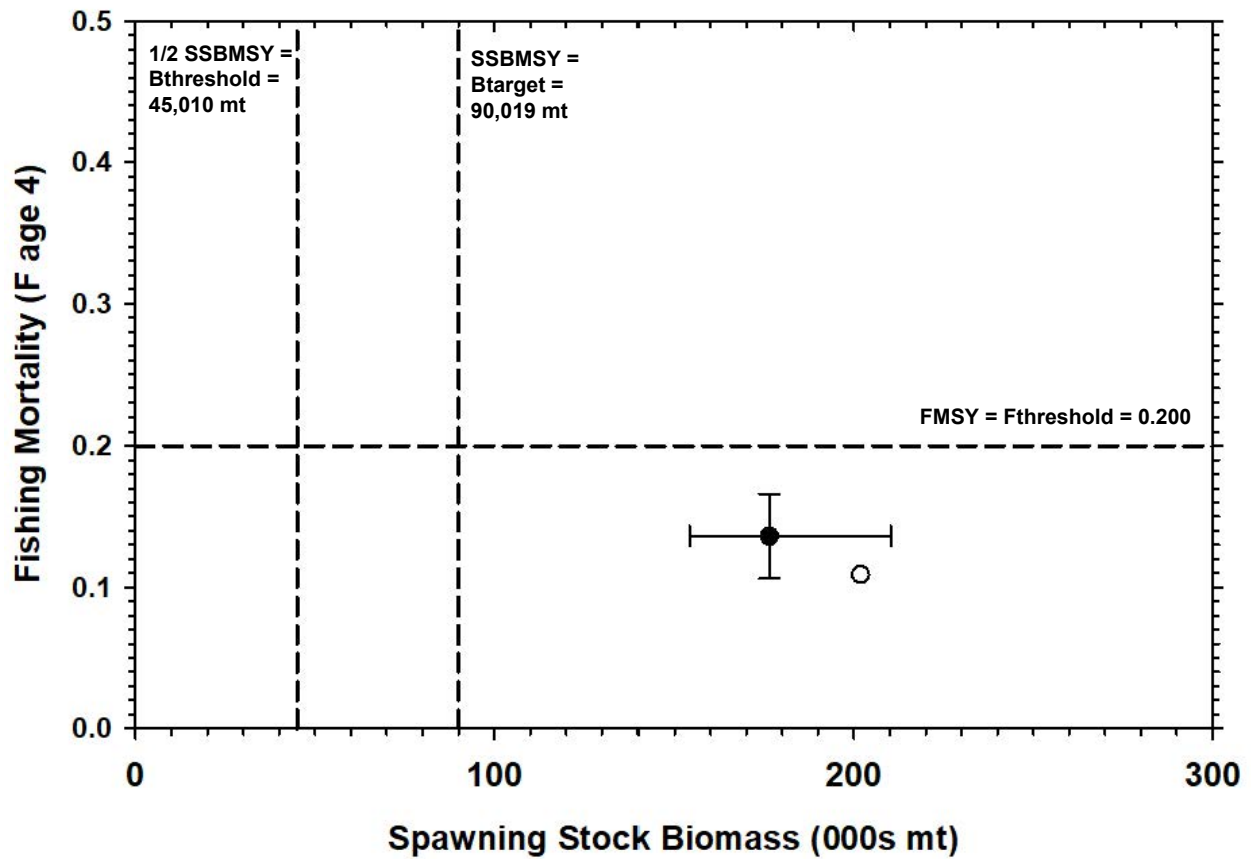


Figure 1. Estimates of scup spawning stock biomass (SSB) and fully-recruited fishing mortality (F, peak at age 3) relative to the updated biological reference points. Filled circle with 90% confidence intervals shows the assessment point estimates. The open circle shows the retrospectively adjusted estimates.

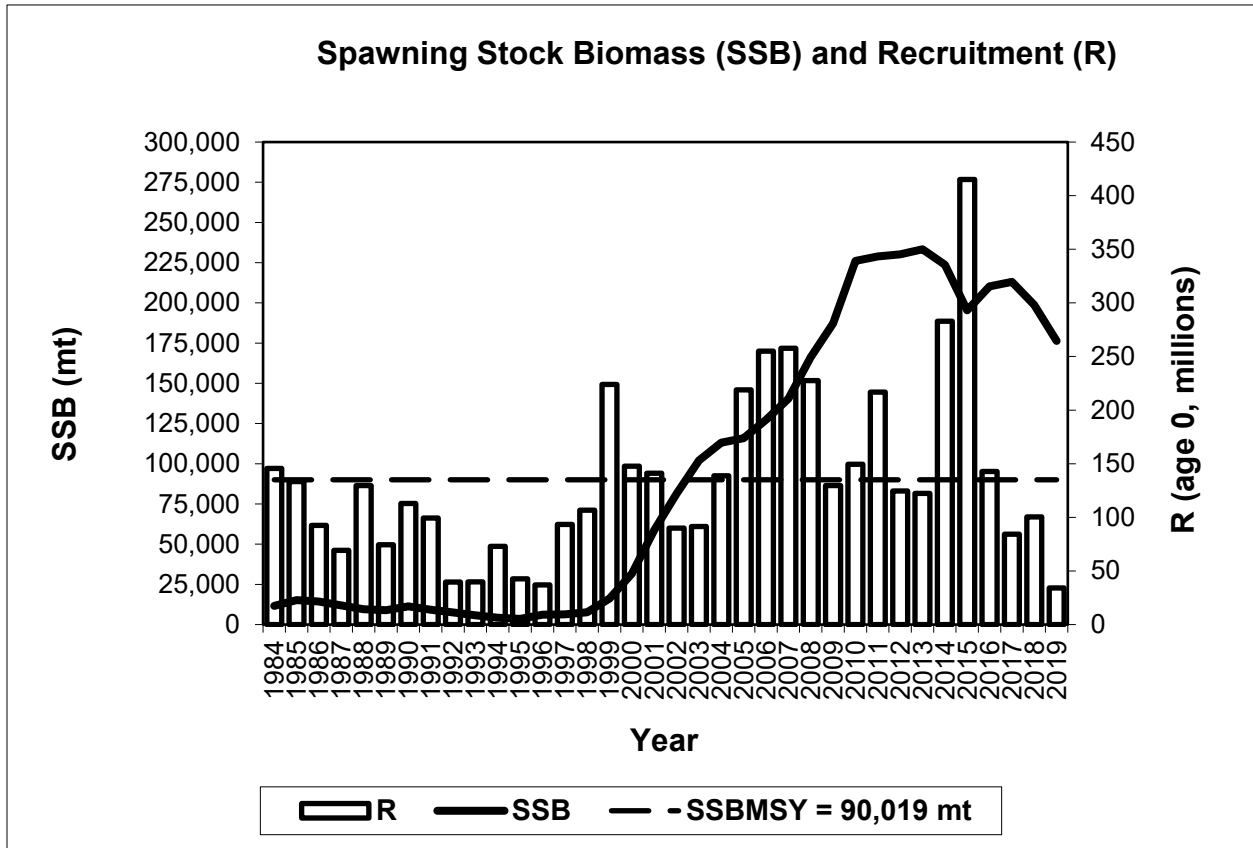


Figure 2. Scup spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the updated SSB_{MSY} proxy = SSB_{40%}. Note this figure only shows years when fishery age data are available in the model.

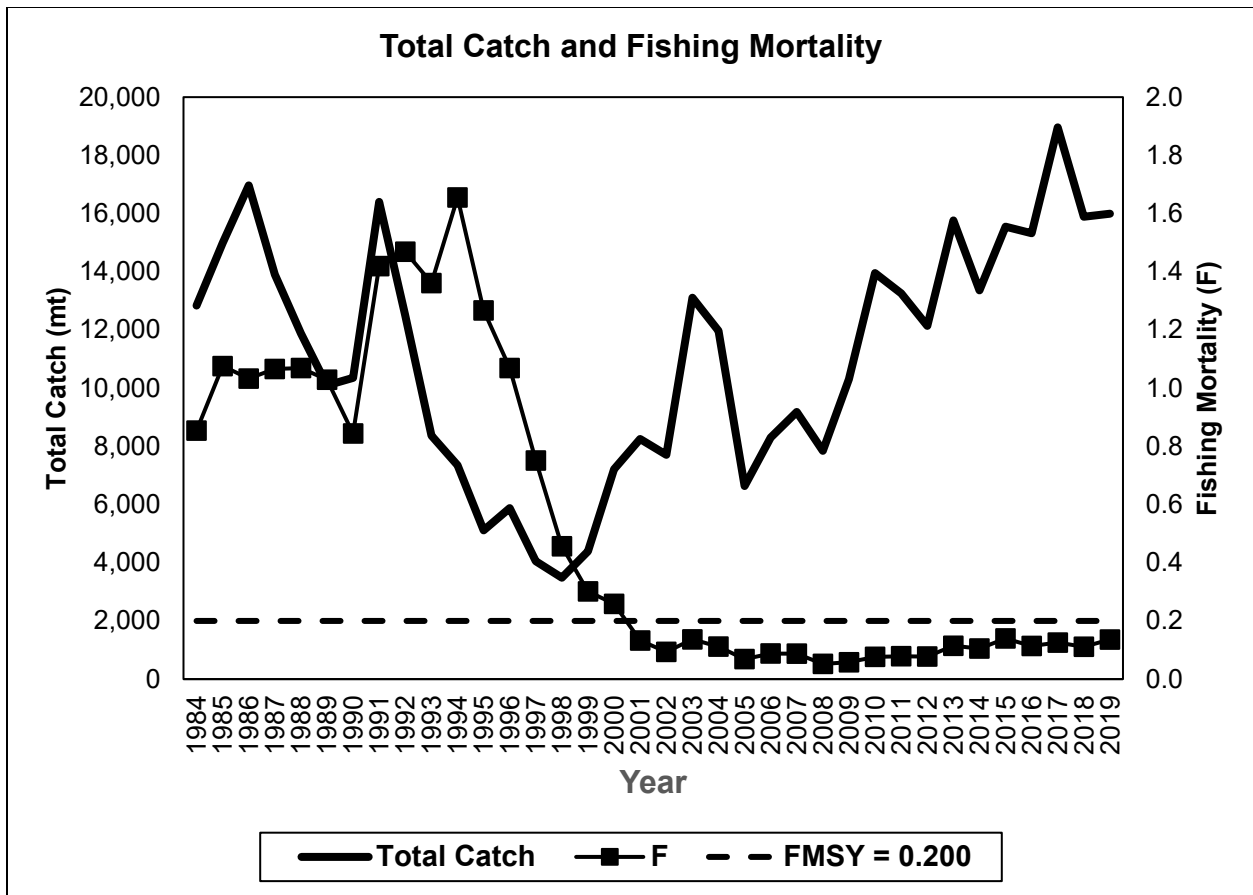


Figure 3. Total fishery catch (metric tons; mt; solid line) and fishing mortality (F, age 4 squares) for scup. The horizontal dashed line is the updated F_{MSY} proxy = $F_{40\%}$. Note this figure only shows years when fishery age data are available in the model.

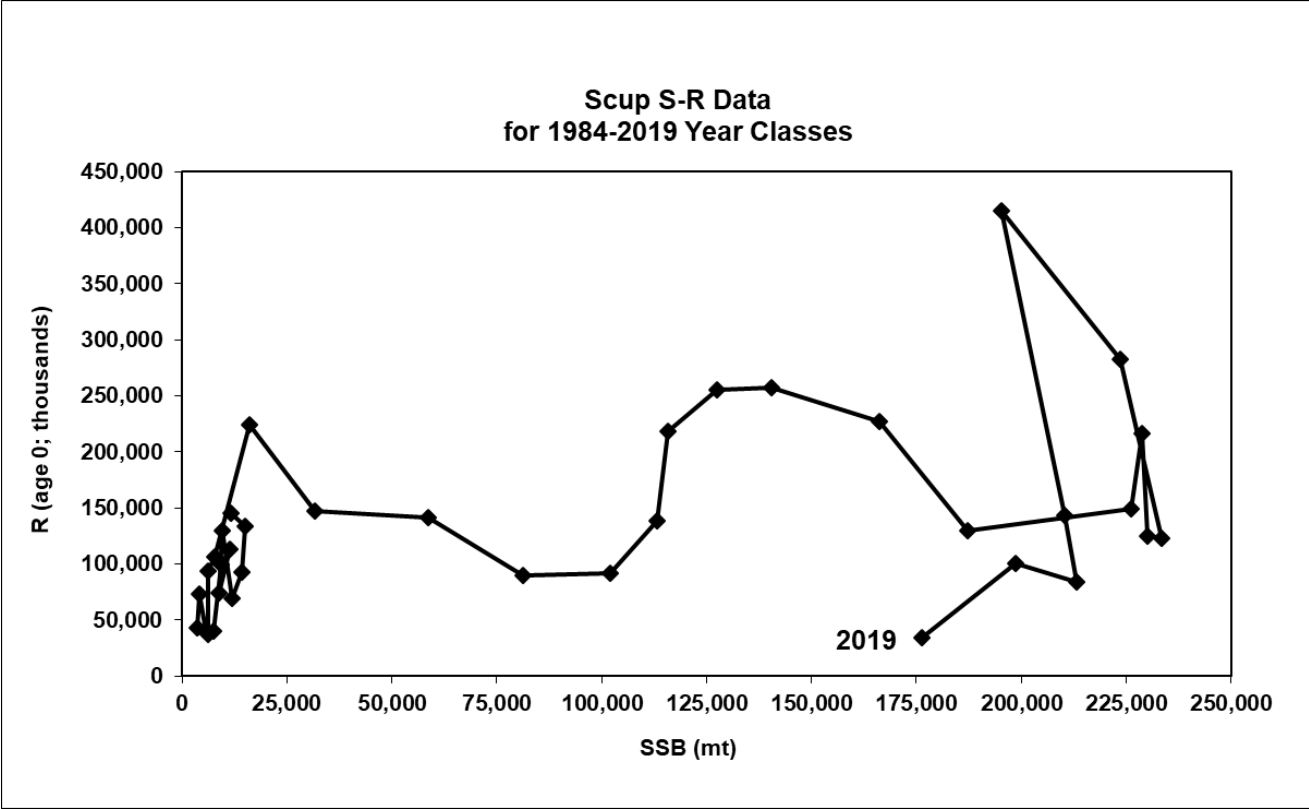


Figure 4. Spawning Stock Biomass (SSB) and Recruitment (R) scatter plot for scup. Note this figure only shows years when fishery age data are available in the model.

Scup Historical Retrospective 2008-2021 Stock Assessments

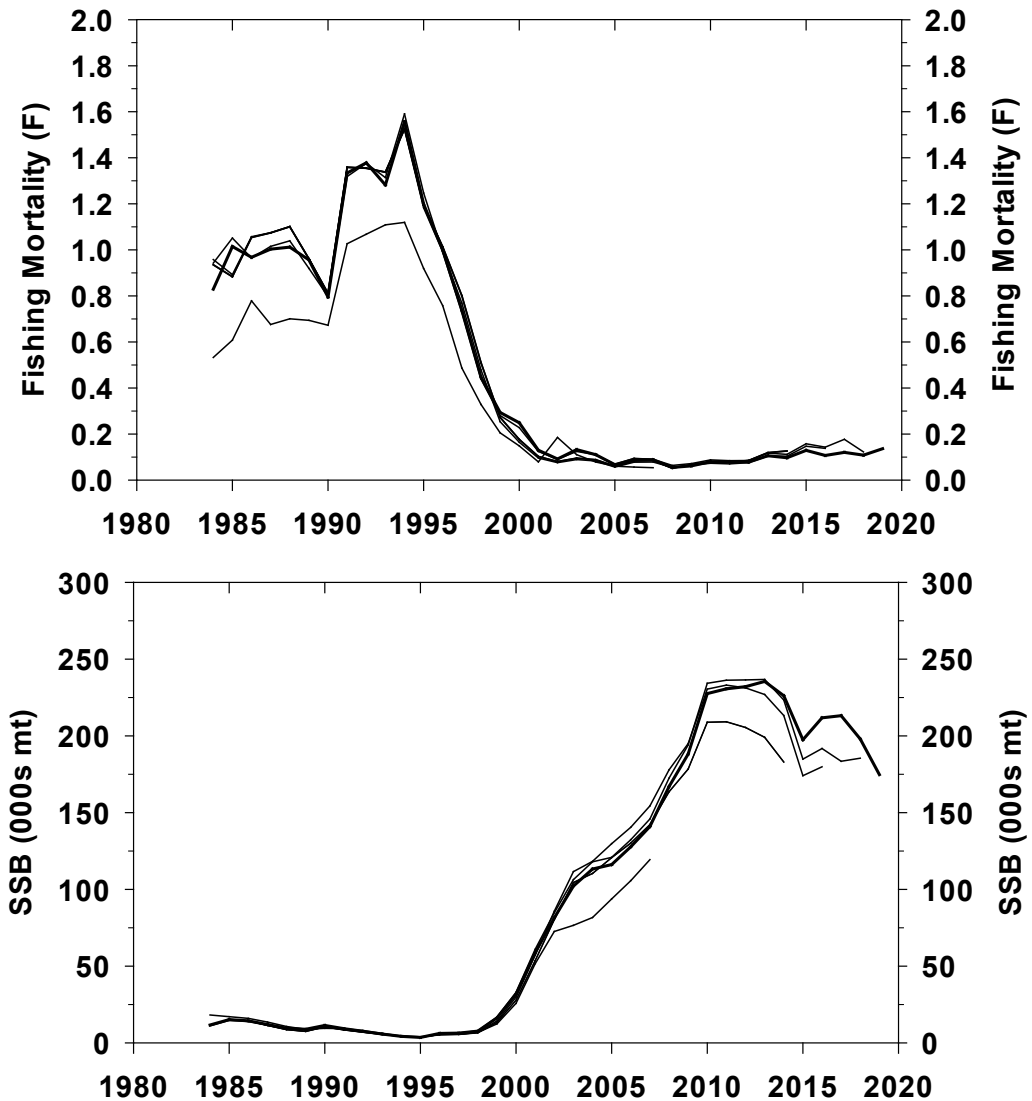


Figure 5. Historical retrospective of the 2008 (Data Poor Stocks; NEFSC 2009), 2015 (SAW 60; NEFSC 2015), 2017 (NEFSC unpublished report) and 2019 (Operational Assessment; NEFSC 2020) stock assessments of scup. The heavy solid lines are the current 2021 MTA estimates.



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

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

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

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

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

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

From: [Jeff Kaelin](#)
To: [Coutre, Karson](#)
Cc: [Moore, Christopher](#)
Subject: Monday's Summer Flounder, Scup, and Black Sea Bass Advisory Panel Meeting
Date: Friday, June 18, 2021 12:00:50 PM

Good morning Karson. I hope this note finds you (and Chris) well.

Although we had discussed that any changes to scup management would be taken up at the July 27 monitoring committee meeting, I see that the final agenda item for Monday's AP meeting concerns recommendations for regulatory changes for the 2022 and 2023 fishing year.

Unfortunately, I am not an AP member (and will have family here Monday so won't be able to call in) so I am hoping that this email can be used to identify our interest in having the monitoring committee consider two changes in scup management when they meet next month.

First, we ask that the monitoring committee analyze increasing the Winter I possession limit, to 100,000 pounds, and analyze eliminating it entirely. This change would help us to continue to build our frozen markets for scup.

Also, we ask that the monitoring committee analyze decreasing the commercial minimum fish size, from 9 inches to 8 inches, which would further support our developing these frozen markets, with value added domestic scup products becoming more widely available to consumers at the retail outlets where they shop.

I recall from the last time changing the minimum fish size was considered, that most 8" scup are sexually mature and, at that time, there were concerns about negative effects on the fresh market so that no changes were made.

Since markets have changed and developed since that time, we hope that the monitoring committee can evaluate the maturity issue and also identify the strength of those age classes in the coast wide stock. Also, if the data is available, evaluate whether or not 8" fish might be a significant portion of discards in the fishery.

Thank you for your consideration and for identifying our interest in these management changes in FYs 2022 & 2023 to the AP Monday.

With best regards,
Jeff

Jeff Kaelin
Director of Sustainability
and Government Relations
Lund's Fisheries, Inc.
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Scup Fishery Information Document

June 2021

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for scup (*Stenotomus chrysops*) with an emphasis on 2020 (note that there are caveats associated with 2020 data due to COVID-19 related data gaps). Data Sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources on scup management, including previous Fishery Information Documents, please visit <http://www.mafmc.org/sf-s-bsb/>.

Key Facts:

- An operational assessment using data through 2018 indicated that the scup stock was not overfished, and overfishing was not occurring in 2018. An updated management track assessment will undergo peer review in July 2021.
- Commercial landings decreased by about 0.20 mil lb from 13.78 mil lb in 2019 to 13.58 mil lb in 2020.
- Price per pound and total ex-vessel value remained similar to 2019 and were \$0.68 and \$9.3 million in 2020.
- Recreational data collection was limited in 2020 by COVID-19. MRIP released 2020 estimates derived using imputation methods incorporating data from 2018 and 2019.
- Recreational landings decreased by about 1.2 mil lb from 14.12 mil lb in 2019 to 12.91 mil lb in 2020. The majority of scup harvested recreationally in 2020 was caught by private vessels (62%) and anglers fishing from shore (28%).

Basic Biology

Scup are a schooling, demersal (i.e., bottom-dwelling) species. They are found in a variety of habitats in the Mid-Atlantic. Scup essential fish habitat includes demersal waters, areas with sandy or muddy bottoms, mussel beds, and sea grass beds from the Gulf of Maine through Cape Hatteras, North Carolina. Scup undertake extensive seasonal migrations between coastal and offshore waters. They are found in estuaries and coastal waters during the spring and summer. In the fall and winter, they move offshore and to the south, to outer continental shelf waters south off New Jersey. Scup spawn once annually over weedy or sandy areas, mostly off southern New England. Spawning takes place from May through August and usually peaks in June and July.¹

About 50% of scup are sexually mature at two years of age and about 17 cm (about 7 inches) total length. Nearly all scup older than three years of age are sexually mature. Scup reach a maximum

age of at least 14 years. They may live as long as 20 years; however, few scup older than 7 years are caught in the Mid-Atlantic.^{2,3}

Adult scup are benthic feeders. They consume a variety of prey, including small crustaceans (including zooplankton), polychaetes, mollusks, small squid, vegetable detritus, insect larvae, hydroids, sand dollars, and small fish. The Northeast Fisheries Science Center’s (NEFSC’s) food habits database lists several predators of scup, including several shark species, skates, silver hake, bluefish, summer flounder, black sea bass, weakfish, lizardfish, king mackerel, and monkfish.¹

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.

Scup underwent an operational assessment in 2019 which indicated that the stock was not overfished and overfishing was not occurring in 2018 (Figures 1 and 2). Spawning stock biomass (SSB) was estimated to be about 411 million pounds in 2018, about 2 times the target level (i.e. SSB_{40%}) of 207 million pounds (Figure 2).^{3,4}

Fishing mortality on fully selected age 3 scup was 0.158 in 2018, about 73% of the F_{MSY} proxy reference point (F_{40%}) of 0.215, which means that overfishing was not occurring in 2018. The 2015 year class (i.e., the scup spawned in 2015) is estimated to be the largest in the time series at 326 million fish, while the 2016-2018 year classes are estimated to be below average at 112 million fish, 93 million fish and 83 million fish, respectively (Figure 2).⁴ The biological reference points for scup as revised through the 2019 operational assessment are described in Table 1.

A scup management track assessment will undergo peer review in July 2021 and will be used to inform 2022-2023 catch and landings limits. This assessment will consist of rerunning the existing model with data through 2019. Given data gaps for 2020 related to COVID-19 and the time required to address those gaps where possible, 2020 data could not be incorporated into this update.

Table 1: Scup biological reference points from the 2019 operational stock assessment.

Reference Points and terminal year SSB and F estimates	2019 operational stock assessment⁴ Data through 2018
SSB_{MSY proxy} = SSB_{40%} (biomass target)	207.28 mil lb/ 94,020 mt
½ SSB_{MSY} (biomass threshold defining an overfished status)	103.639 mil lb/ 47,010 mt
Terminal year SSB	411 mil lb/186,578 mt (2018) 198% of SSB _{MSY}
F_{MSY proxy} = F_{40%} (threshold defining overfishing)	0.215

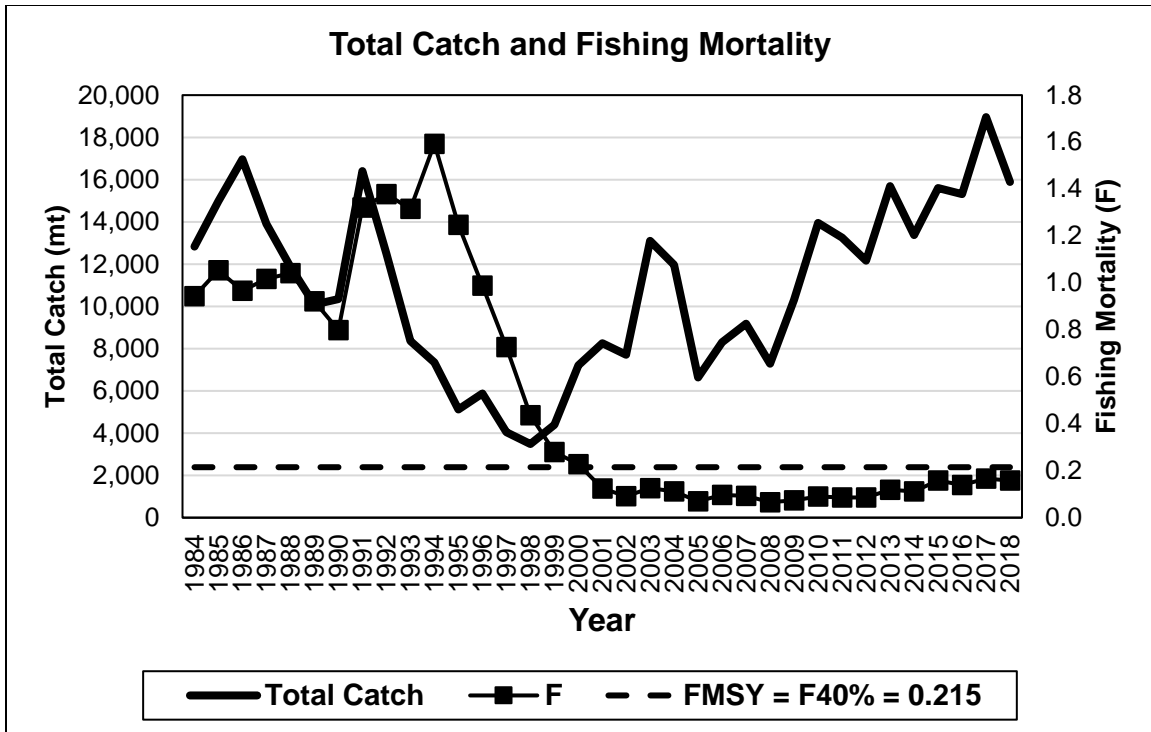


Figure 1: Total fishery catch and fishing mortality rate (F) for fully selected age 3 scup, 1984-2018. The horizontal dashed line is the fishing mortality reference point from the from the 2019 operational stock assessment. Overfishing is occurring when the fishing mortality rate exceeds this threshold.⁴

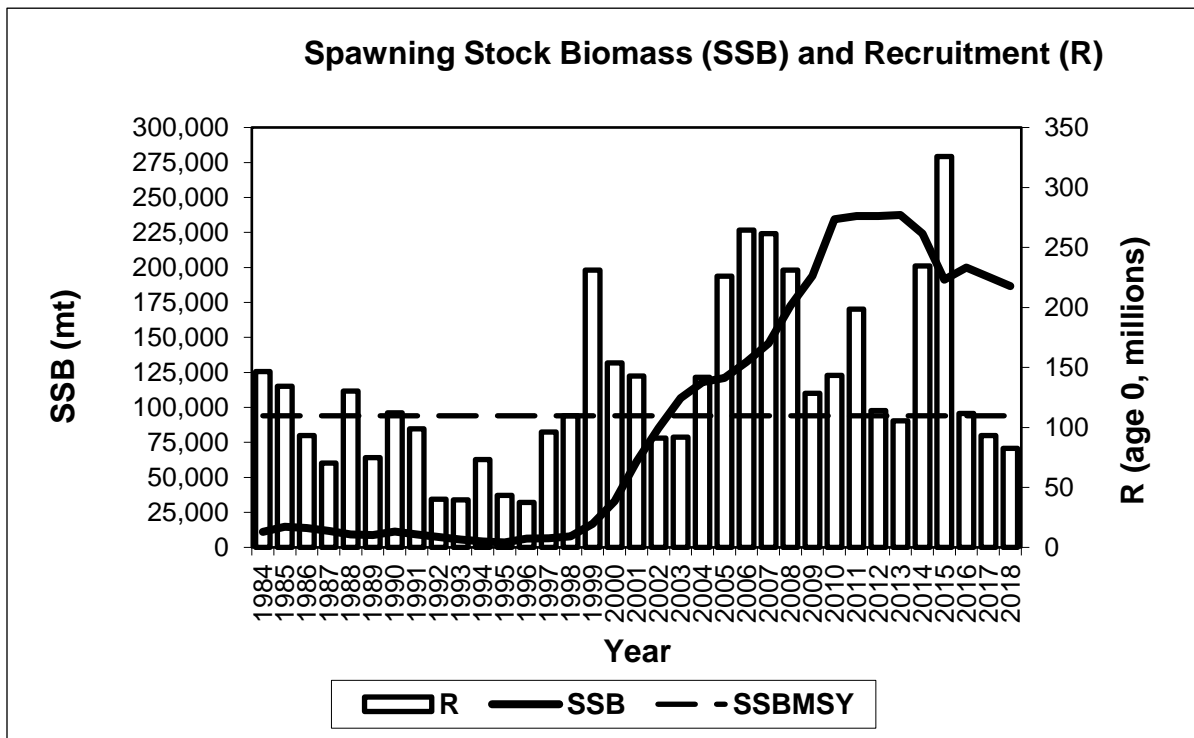


Figure 2: Scup spawning stock biomass and Recruitment, 1984-2018. The horizontal dashed line is the biomass target from the from the 2019 operational stock assessment.⁴

Management System and Fishery Performance

Management

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) cooperatively develop fishery regulations for scup off the east coast of the United States. The National Marine Fisheries Service (NMFS) serves as the federal implementation and enforcement entity. This cooperative management endeavor 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). The management unit for scup includes U.S. waters from Cape Hatteras, North Carolina to the U.S./Canadian border.

The federal Fishery Management Plan (FMP) for scup has been in place since 1996, when scup were incorporated into the Summer Flounder FMP through Amendment 8. Amendment 8 established gear restrictions, reporting requirements, commercial quotas, a moratorium on new commercial scup permits, recreational possession limits, and minimum size restrictions for scup fisheries. The Council has made several adjustments to the FMP since 1996. The FMP and subsequent amendments and framework adjustments can be found at: www.mafmc.org/sf-s-bsb/.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for scup. The annual ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the allocation percentages prescribed in the FMP (i.e. 78% commercial, 22% recreational). The Council and Commission are considering an ongoing FMP amendment to determine if these allocation percentages should be revised to reflect more recent data. Both ABCs and ACLs are catch-based limits, meaning they account for both landings and discards. Projected discards are subtracted to determine the commercial quota and recreational harvest limit (RHL), which are landings-based limits.

COVID-19 Data Issues in 2020

The COVID-19 pandemic impacted data collection in both the recreational and commercial fisheries. While effort and markets were impacted by COVID-19 to various degrees, data collection for commercial landings from seafood dealers continued uninterrupted. However, 2020 commercial discard estimates will be affected by missing observer data. Commercial discard estimates are developed using Standardized Bycatch Reporting Methodology (SBRM) 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 scup and other species.

The COVID-19 pandemic disrupted the recreational Access Point Angler Intercept Survey (APAIS). All Mid-Atlantic states suspended APAIS sampling starting in late March or April 2020. States resumed sampling 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 it will seek to revise its 2020 catch estimates.

Fishery Landings Summary

Table 2 shows scup catch and landings limits from 2010 through 2021, as well as commercial and recreational landings through 2020.

Total scup landings (commercial and recreational) from Maine to North Carolina peaked in 1981 at over 32 million pounds and reached a low of 6 million pounds in 1998. In 2020, about 26.49 million pounds of scup were landed by commercial and recreational fishermen (Figure 3).^{5,6}

Table 2: Summary of scup catch limits, landings limits, and landings, 2011 through 2021. Values are in millions of pounds unless otherwise noted.

Measure	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 ^d
ABC	51.7	40.88	38.71	35.99	33.77	31.11	28.4	39.14	36.43	35.77	34.81
TAC ^a	31.92	--	--	--	--	--	--	--	--	--	--
Commercial ACL	--	31.89	30.19	28.07	26.35	24.26	22.15	30.53	28.42	27.9	27.15
Commercial quota ^b	20.36	27.91	23.53	21.95	21.23	20.47	18.38	23.98	23.98	22.23	20.5
Commercial landings	15.03	14.88	17.87	15.96	17.03	15.76	15.45	13.38	13.78	13.58	--
% of commercial quota landed	74%	53%	76%	72%	80%	77%	84%	55%	57%	61%	--
Recreational ACL	--	8.99	8.52	7.92	7.43	6.84	6.25	8.61	8.01	7.87	7.66
RHL ^b	5.74	8.45	7.55	7.03	6.8	6.09	5.5	7.37	7.37	6.51	6.07
Recreational landings, old MRIP estimates	3.67	4.17	5.37	4.43	4.41	4.26	5.42	5.61	--	--	--
% of RHL harvested ^c	64%	49%	71%	63%	65%	70%	98%	76%	--	198%	--
Recreational landings, new MRIP estimates	10.32	8.27	12.64	10.27	12.17	10	13.53	12.98	14.12	12.91	--

^a Prior to implementation of the 2011 Omnibus ACLs and AMs Amendment, the Council specified a Total Allowable Catch (TAC). After implementation of this amendment, the Council specified ABCs instead of TACs. Both terms refer to the total catch limit in a given year. The difference between the TAC and the ABC in 2011 was due to the Council specifying a more conservative limit than that recommended by the SSC.

^b Commercial quotas and RHLs reflect the removal of projected discards from the sector-specific ACLs. For 2006-2014, these limits were also adjusted for Research Set Aside.

^c The percent of RHL harvested is based on a comparison of the RHL to the old MRIP estimates through 2018. The RHLs prior to 2020 did not account for the new MRIP estimates, which were released in July 2018 and were not incorporated into a stock assessment until 2019; therefore, it would be inappropriate to compare past RHLs to the revised MRIP estimates. The first year that the RHL was set using the new MRIP estimates was 2020.

^d The 2021 measures were revised in 2020 by the SSC, the Council, and the Commission in accordance with the Council's changes to their risk policy.

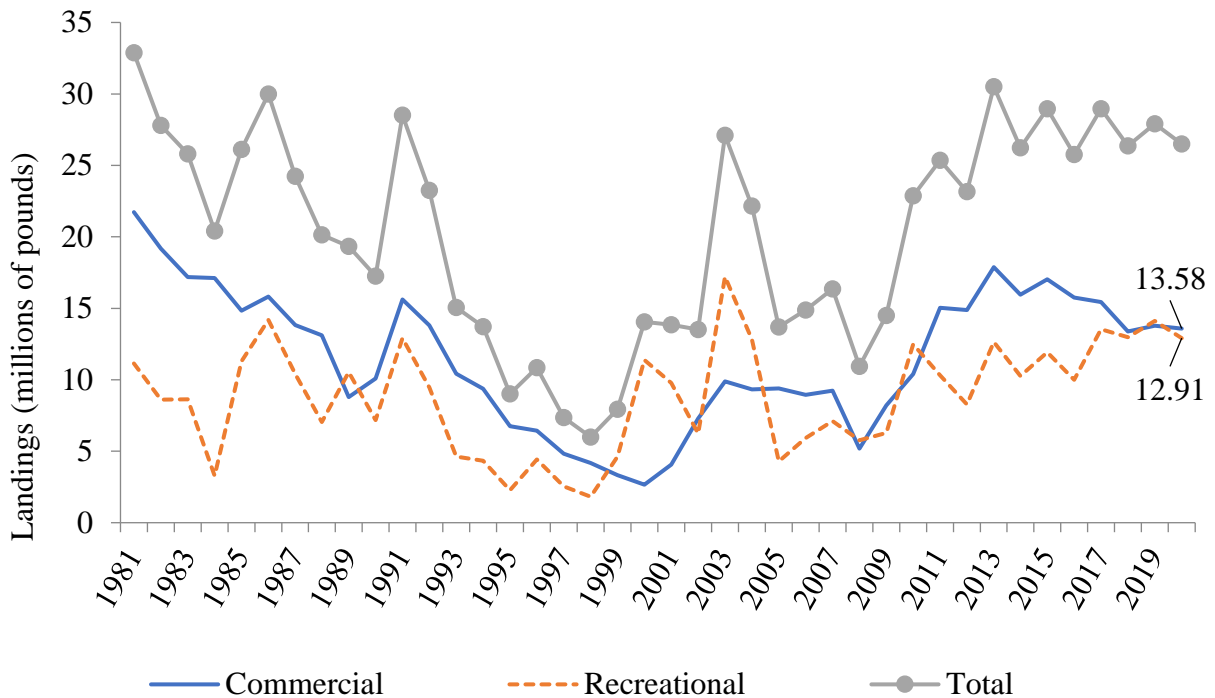


Figure 3: Commercial and recreational scup landings, Maine - North Carolina, 1981-2020 (2020 values are labeled on chart). Recreational landings are based on the new MRIP numbers.^{5,6}

Commercial Fishery

Commercial scup landings peaked in 1981 at 21.73 million pounds and reached a low of 2.66 million pounds in 2000 (Figure 3). In 2020, commercial fishermen landed 13.58 million pounds of scup, about 61% of the commercial quota.⁵

As previously mentioned, 2020 commercial discard data are currently unavailable due to COVID-19 related interruptions in observer coverage. In 2019, about 6.13 million pounds of scup were discarded in commercial fisheries, representing a 9% decrease from 2018. Commercial discards increased from 2014-2017, peaking at about 10.42 million pounds in 2017. This was the highest number of discards since at least 1981 and was likely mainly due to the large 2015 year class, which is the largest year class since 1984. In 2017, these scup were very abundant, but mostly too small to be landed in the commercial fishery due to the commercial minimum fish size of 9 inches total length.⁵

The commercial scup fishery operates year-round, taking place mostly in federal waters during the winter and mostly in state waters during the summer. A coast-wide commercial quota is allocated between three quota periods, known as the winter I, summer, and winter II quota periods. These seasonal quota periods were established to ensure that both smaller day boats, which typically operate near shore in the summer months, and larger vessels operating offshore in the winter months can land scup before the annual quota is reached. The dates of the summer and winter II periods were modified in 2018 (Table 3). Both winter periods are managed under a coastwide quota while the summer period quota is divided among states according to the allocation percentages outlined in the Commission’s FMP (Table 4).

Once the quota for a given period is reached, the commercial fishery is closed for the remainder of that period. If the full winter I quota is not harvested, unused quota is added to the winter II period. Any quota overages during the winter I and II periods are subtracted from the quota allocated to those periods in the following year. Quota overages during the summer period are subtracted from the following year's quota only in the states where the overages occurred.

A possession limit of 50,000 pounds is in effect during the winter I quota period. A possession limit of 12,000 pounds is in effect during the winter II period. If the winter I quota is not reached, the winter II possession limit increases by 1,500 pounds for every 500,000 pounds of quota not caught during winter I. During the summer period, various state-specific possession limits are in effect.

The commercial scup fishery in federal waters is predominantly a bottom otter trawl fishery. In 2020, about 96% of the commercial scup landings (by weight) reported by federal VTR data were caught with bottom otter trawls. Pots/traps accounted for about 2% of landings, while all other gear types each accounted for 1% or less of the 2020 commercial scup landings.⁹

Until 2019, trawl vessels could not possess 1,000 pounds or more of scup during October - April, or 200 pounds or more during May - September, unless they use a minimum mesh size of 5-inch diamond mesh, applied throughout the codend for at least 75 continuous meshes forward of the terminus of the net. In 2019, another threshold period was added from April 15-June 15 with a 2,000 pound possession limit to allow for higher retention in the small-mesh squid fishery (Table 5). Pots and traps for scup are required to have degradable hinges and escape vents that are either circular with a 3.1 inch minimum diameter or square with a minimum length of 2.25 inches on the side.

VTR data suggest that NMFS statistical areas 537, 616, 613, 539 and 611 were responsible for the largest percentage of commercial scup catch in 2020. Statistical area 539, off Rhode Island, had the highest number of trips which caught scup (Table 6, Figure 4).⁹

Over the past two decades, total scup ex-vessel revenue ranged from a low of \$4.8 million in 2000 to a high of \$12.3 million in 2015. In 2020, 13.58 million pounds of scup were landed by commercial fishermen from Maine through North Carolina. Total ex-vessel value in 2020 was \$9.30 million, resulting in an average price per pound of \$0.68. All revenue and price values were adjusted to 2020 dollars to account for inflation.⁵

In general, the price of scup tends to be lower when landings are higher, and vice versa (Figure 5). This relationship is not linear and many other factors besides landings also influence price. The highest average price per pound over the past two decades was \$2.20 and occurred in 1998. The lowest average price per pound was \$0.61 and occurred in 2013.⁵

Over 147 federally-permitted dealers from Maine through North Carolina purchased scup in 2020. More dealers in New York purchased scup than in any other state (Table 7).⁵

At least 100,000 pounds of scup were landed by commercial fishermen in 14 ports in 6 states in 2020. These ports accounted for approximately 91% of all 2020 commercial scup landings. Point Judith, Rhode Island was the leading port, both in terms of landings and number of vessels landing scup (Table 8).⁵ Detailed community profiles developed by the Northeast Fisheries Science Center's Social Science Branch can be found at www.mafmc.org/communities/.

A moratorium permit is required to fish commercially for scup. In 2020, 605 vessels held commercial moratorium permits for scup.¹⁰

Table 3: Dates, allocations, and possession limits for the commercial scup quota periods. Winter period possession limits apply in both state and federal waters.

Quota Period	Dates	% of commercial quota allocated	Possession limit
Winter I	January 1 – April 30	45.11%	50,000 pounds, until 80% of winter I allocation is reached, then reduced to 1,000 pounds.
Summer	May 1 – September 30*	38.95%	State-specific
Winter II	October 1 – December 31*	15.94%	12,000 pounds. If winter I quota is not reached, the winter II possession limit increases by 1,500 pounds for every 500,000 pounds of scup not landed during winter I.

*Prior to 2018, the summer period was May 1 - October 31 and the winter II period was November 1 - December 31, with the same allocations as shown above.

Table 4: State-by-state quotas for the commercial scup fishery during the summer quota period (May-September).

State	Share of summer quota
Maine	0.1210%
Massachusetts	21.5853%
Rhode Island	56.1894%
Connecticut	3.1537%
New York	15.8232%
New Jersey	2.9164%
Maryland	0.0119%
Virginia	0.1650%
North Carolina	0.0249%
Total	99.9908%

Table 5: Changes in scup small mesh incidental possession limit for the commercial fishery from 2018 to 2019.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2018	1,000 lb				200 lb				1,000 lb			
2019-2021	1,000 lb			2,000 lb			200 lb			1,000 lb		

Table 6: Statistical areas which accounted for at least 5% of the total commercial scup catch (by weight based on VTR data) in 2020, with associated number of trips.⁹ Federal VTR data do not capture landings by vessels only permitted to fish in state waters.

Statistical area	% of 2020 commercial scup catch	Number of trips
537	20%	894
616	20%	585
613	17%	1,252
539	11%	2,365
611	11%	2,209

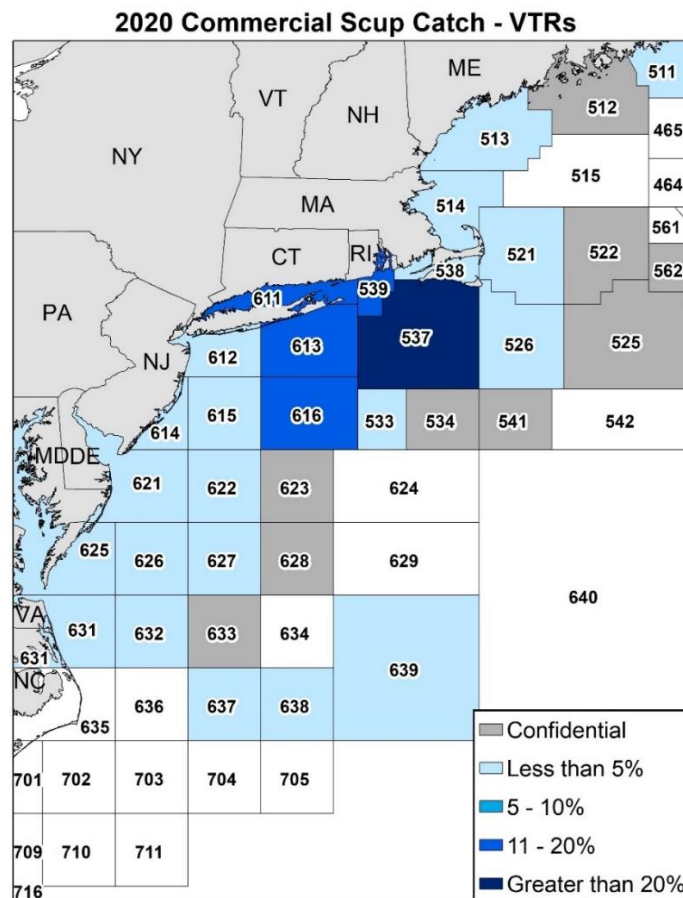


Figure 4: Proportion of scup catch by statistical area in 2020 based on federal VTR data. Statistical areas marked “confidential” are associated with fewer than three vessels and/or dealers. Statistical areas with confidential data collectively accounted for about 1% of commercial catch reported on VTRs in 2020. The amount of catch (landings and discards) that was 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 18% of total commercial landings (state and federal) were not associated with a statistical area reported in federal VTRs; AA data for 2020 is not available.

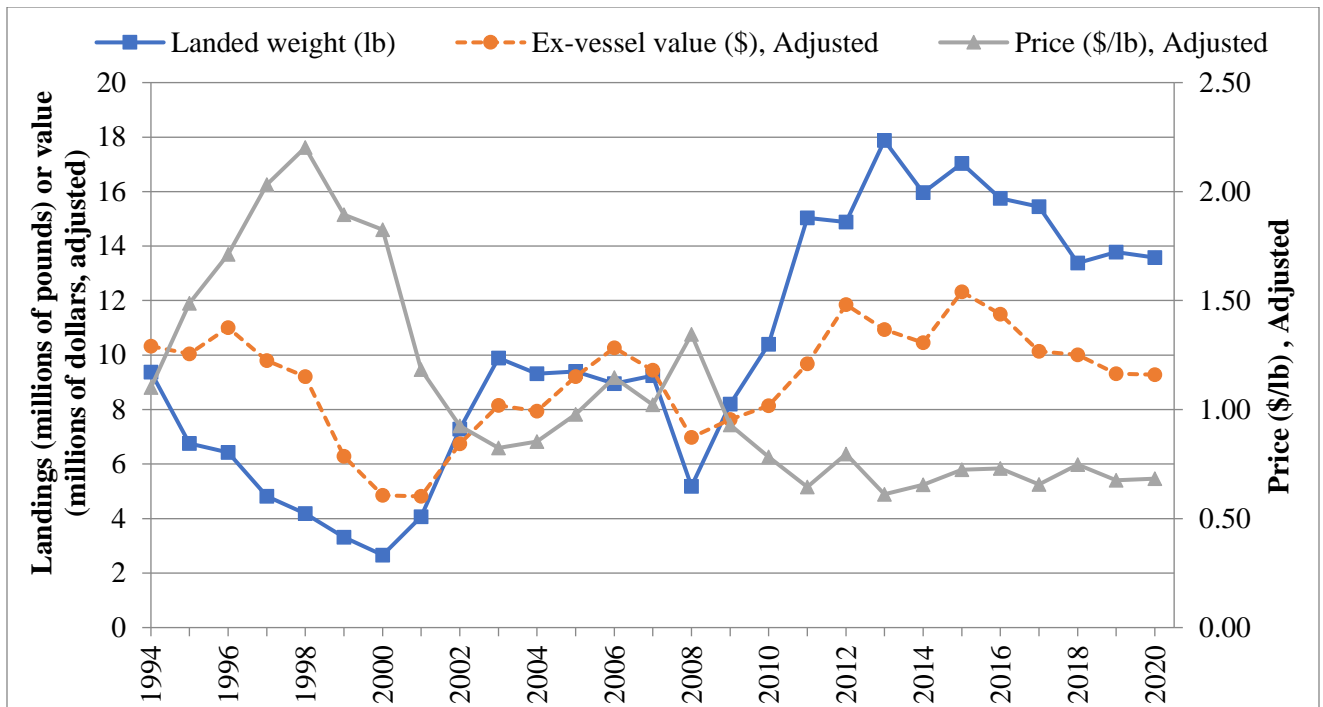


Figure 5: Landings, ex-vessel value, and price for scup from Maine through North Carolina, 1994-2020. Ex-vessel value and price are inflation-adjusted to 2020 dollars using the Gross Domestic Product Price Deflator.⁵

Table 7: Number of dealers per state which reported purchases of scup in 2020. C = Confidential.⁵

State	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of Dealers	C	26	26	12	38	17	C	4	10	11

Table 8: Ports reporting at least 100,000 pounds of scup landings in 2020, based on NMFS dealer data. C = Confidential.⁵

Port	Scup landings (lb)	% of total commercial scup landings	Number of vessels
POINT JUDITH, RI	3,555,514	26%	126
MONTAUK, NY	3,236,326	24%	84
PT. PLEASANT, NJ	1,352,306	10%	32
CAPE MAY, NJ	811,353	6%	25
MATTITUCK, NY	478,300	4%	5
NEW BEDFORD, MA	474,084	3%	54
HAMPTON BAY, NY	471,657	3%	25
STONINGTON, CT	438,887	3%	21
LITTLE COMPTON, RI	403,382	3%	12
NEW LONDON, CT	301,782	2%	6
HAMPTON, VA	265,945	2%	29
SHINNECOCK, NY	174,713	1%	6
EAST HAVEN, CT	163,196	1%	7
AMMAGANSETT, RI	C	C	C

Scup Gear Restricted Areas

Two scup gear restricted areas (GRAs) were first implemented in 2000 with the goal of reducing scup discards in small-mesh fisheries. The GRA boundaries have been modified multiple times since their initial implementation. The current boundaries are shown in Figure 6. Trawl vessels may not fish for or possess longfin squid, black sea bass, or silver hake in the Northern GRA from November 1 – December 31 and in the Southern GRA from January 1 – March 15 unless they use mesh which is at least 5 inches in diameter. The GRAs are thought to have contributed to the recovery of the scup population in the mid- to late-2000s.⁸ As previously stated, commercial scup discards increased by 71% between 2016 and 2017, likely due to the large 2015 year class.⁴ Although discards decreased by about 41% in 2019 compared with the record high discards in 2017, they still remain well above average. Further analysis is needed to evaluate the impact of the GRA modification on commercial scup discards in 2017-2020.

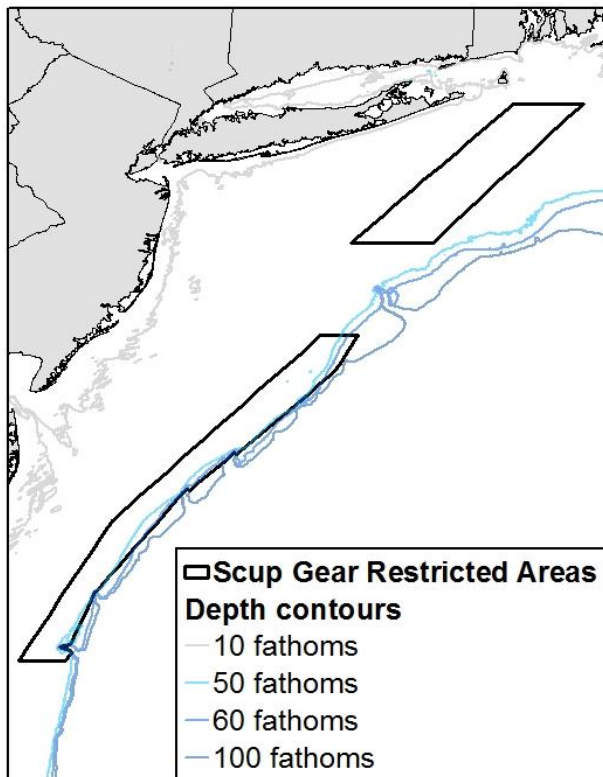


Figure 6: The Scup Gear Restricted Areas.

Recreational Fishery

The recreational scup fishery is managed on a coast-wide basis in federal waters. Current federal regulations include a minimum size of 9 inches total length, a year-round open season, and a possession limit of 50 scup (Table 9). These measures have been unchanged since 2015.

The Commission applies a regional management approach to recreational scup fisheries in state waters, where New York, Rhode Island, Connecticut, and Massachusetts develop regulations intended to achieve 97% of the RHL. The minimum fish size, possession limit, and open season for recreational scup fisheries in state waters vary by state. State waters measures remained unchanged from 2015 through 2017. Massachusetts through New Jersey liberalized their minimum size limits and/or seasons in 2018 compared to 2017 and there were very minor changes in the state regulations from 2018 to 2019. There were no changes to state measures from 2019 to 2021 (Table 10).

Recreational data are available from MRIP. 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, including a transition from a telephone-based effort survey to a mail-based effort survey. The RHLs and other management measures through 2019 were based on the old MRIP estimates. The new estimates of catch and landings are several times higher than the previous estimates for shore and private boat modes, substantially raising the overall scup catch and harvest estimates. Information presented in this section is based on the new estimates.

From 1981-2020, recreational catch of scup peaked in 2017 at 41.20 million scup and landings peaked in 1986 with an estimated 30.43 million scup landed by recreational fishermen from Maine through North Carolina. Recreational catch was lowest in 1998 when an estimated 6.86 million scup were caught and 2.74 million scup were landed. Recreational anglers from Maine through North Carolina caught an estimated 27.27 million scup and landed 14.49 million scup (about 12.91 million pounds) in 2020 (Table 11).⁶

The Council and Board agreed to leave the recreational bag, size, and season limits unchanged in 2020 despite an expected RHL overage (Table 2). 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.⁷

Vessels carrying passengers for hire in federal waters must obtain a federal party/charter permit. In 2020, 740 vessels held scup federal party/charter permits. Many of these vessels also held party/charter permits for summer flounder and black sea bass.¹⁰

Most recreational scup catch occurs in state waters during the warmer months when the fish migrate inshore. Between 2018 and 2020, about 93.5% of recreational scup catch (in numbers of fish) occurred in state waters and about 6.5% occurred in federal waters (Table 12). New York, Connecticut, Rhode Island, Massachusetts, and New Jersey accounted for over 99.9% of recreational scup harvest in 2020 (Table 13).⁶

About 62% of recreational scup landings (in numbers of fish) in 2020 were from anglers who fished on private or rental boats. About 12% were from anglers fishing on party or charter boats, and about 28% were from anglers fishing from shore (Table 14).⁶

Table 9: Federal recreational measures for scup, 2005-2021.

Regulation	2005-2007	2008-2009	2010-2011	2012	2013	2014	2015-2021
Minimum size (total length)	10 in.	10.5 in.	10.5 in.	10.5 in.	10 in.	9 in.	9 in.
Possession limit	50	15	10	20	30	30	50
Open season	Jan 1–Feb 28 & Sept 18 – Nov 30	Jan 1–Feb 28 & Oct 1–Oct 31	Jun 6 – Sept 26	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31

Table 10: State recreational fishing measures for scup in 2019-2021.

State	Minimum Size (inches)	Possession Limit	Open Season
MA (private & shore)	9	30 fish; 150 fish/vessel with 5+ anglers on board	April 13-December 31
MA (party/charter)	9	30 fish	April 13-April 30; July 1-December 31
		50 fish	May 1-June 30
RI (private & shore)	9	30 fish	January 1-December 31
RI shore program (7 designated shore sites)	8		
RI (party/charter)	9	30 fish	January 1-August 31; November 1-December 31
		50 fish	September 1-October 31
CT (private & shore)	9	30 fish	January 1-December 31
CT shore program (45 designated shore sites)	8		
CT (party/charter)	9	30 fish	January 1-August 31; November 1-December 31
		50 fish	September 1-October 31
NY (private & shore)	9	30 fish	January 1-December 31
NY (party/charter)	9	30 fish	January 1-August 31; November 1-December 31
		50 fish	September 1- October 31
NJ	9	50 fish	January 1- December 31
DE	8	50 fish	January 1-December 31
MD	8	50 fish	January 1-December 31
VA	8	30 fish	January 1-December 31
NC, North of Cape Hatteras (N of 35° 15'N)	8	50 fish	January 1-December 31

Table 11: Estimated recreational catch and harvest of scup, Maine - North Carolina, 2011 – 2020, based on the revised MRIP estimates.⁶

Year	Recreational catch (millions of fish)	Recreational harvest (millions of fish)	Recreational harvest (millions of pounds)	% of catch retained
2011	18.52	7.60	10.32	41%
2012	21.24	7.33	8.27	35%
2013	25.88	11.55	12.64	45%
2014	20.88	9.49	10.27	45%
2015	25.15	11.50	12.17	46%
2016	31.49	9.14	10.00	29%
2017	41.20	13.82	13.53	34%
2018	30.37	14.55	12.98	48%
2019	28.67	14.95	14.12	52%
2020	27.27	14.49	12.91	53%

Table 12: Estimated percent of scup (in numbers of fish) caught by recreational fishermen in state and federal waters, Maine - North Carolina, 2011 – 2020, based on the revised MRIP estimates.⁶

Year	State waters	Federal waters
2011	98.5%	1.5%
2012	99.7%	0.3%
2013	96.3%	3.7%
2014	96.5%	3.5%
2015	98.9%	1.1%
2016	93.5%	6.5%
2017	96.0%	4.0%
2018	96.2%	3.8%
2019	95.5%	4.5%
2020	88.6%	11.4%
2011-2020 average	96.0%	4.0%
2018-2020 average	93.5%	6.5%

Table 13: Recreational scup harvest by state, 2018- 2020. Percentages were calculated based on numbers of fish using the revised MRIP estimates.⁶

State	2018	2019	2020	2018-2020 average
Maine	0%	0%	0%	0%
New Hampshire	0%	0%	0%	0%
Massachusetts	22%	13%	9%	15%
Rhode Island	16%	22%	11%	16%
Connecticut	21%	17%	25%	21%
New York	37%	48%	49%	44%
New Jersey	3%	1%	6%	3%
Delaware	0%	0%	0%	0%
Maryland	0%	0%	0%	0%
Virginia	0%	0%	0%	0%
North Carolina	0%	0%	0%	0%

Table 14: Scup harvest (in numbers of fish) by recreational fishing mode, Maine - North Carolina, 2011 – 2020, based on the revised MRIP estimates. Some percentages do not sum to 100% due to rounding.⁶

Year	Shore	Party/charter	Private/rental	Total number
2011	22%	7%	72%	7,598,242
2012	14%	16%	69%	7,334,829
2013	34%	15%	51%	11,547,027
2014	20%	15%	65%	9,488,949
2015	17%	8%	76%	11,498,783
2016	34%	10%	56%	9,143,579
2017	23%	11%	65%	13,820,611
2018	43%	9%	48%	14,545,488
2019	29%	15%	56%	14,954,157
2020	28%	10%	62%	14,493,250
2011-2020 average	26%	12%	62%	11,442,492
2018-2020 average	33%	12%	55%	14,664,298

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