



Mid-Atlantic Fishery Management Council

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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.
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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>

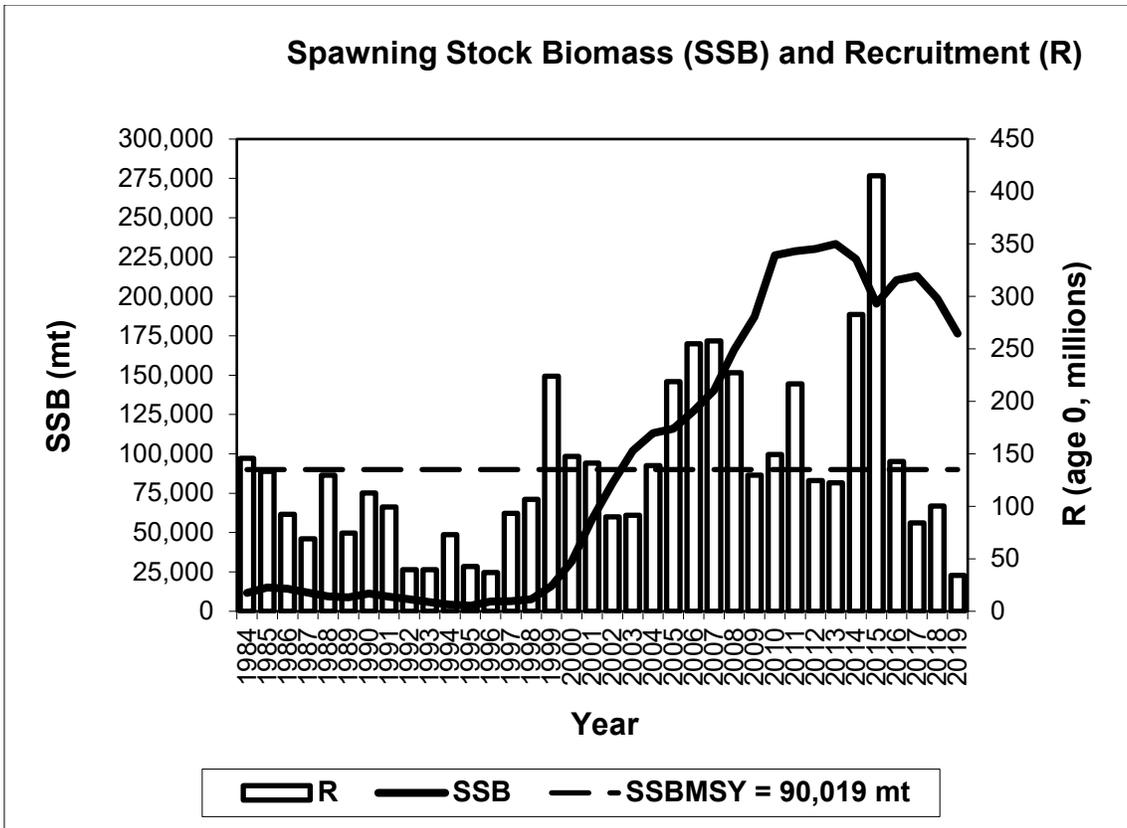


Figure 1: Scup SSB and recruitment at age 0, 1984-2019 from the 2021 management track stock assessment.

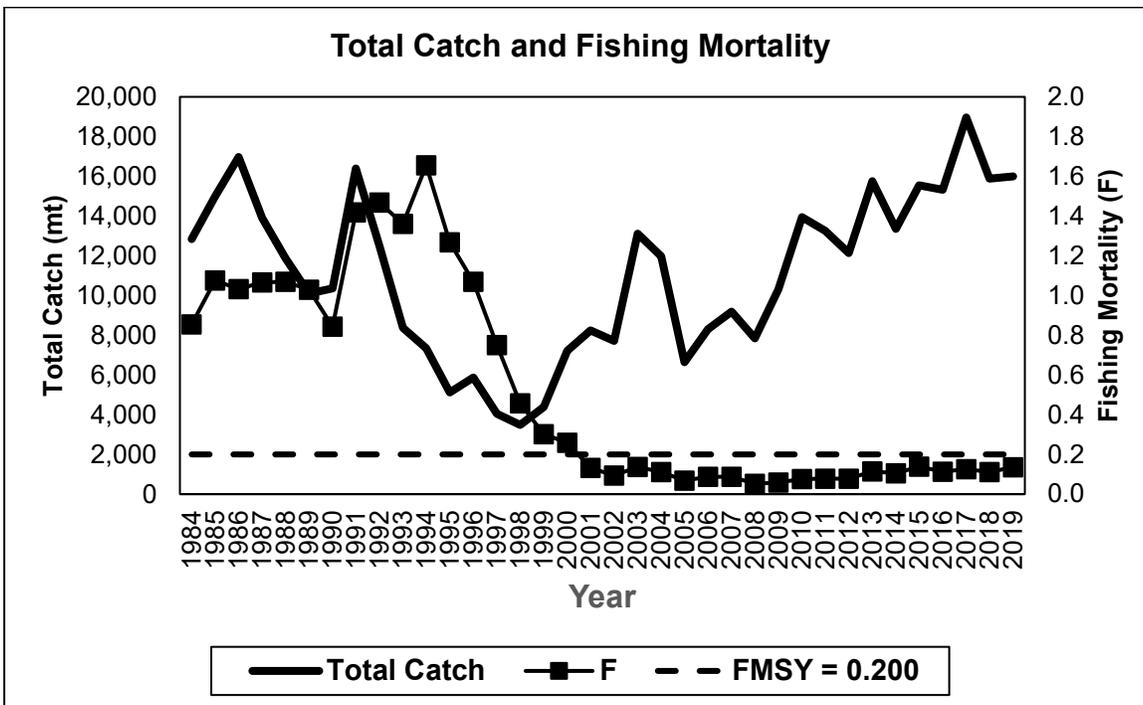


Figure 2: Scup total catch and fishing mortality, 1984-2019 from the 2021 management track stock assessment.

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.

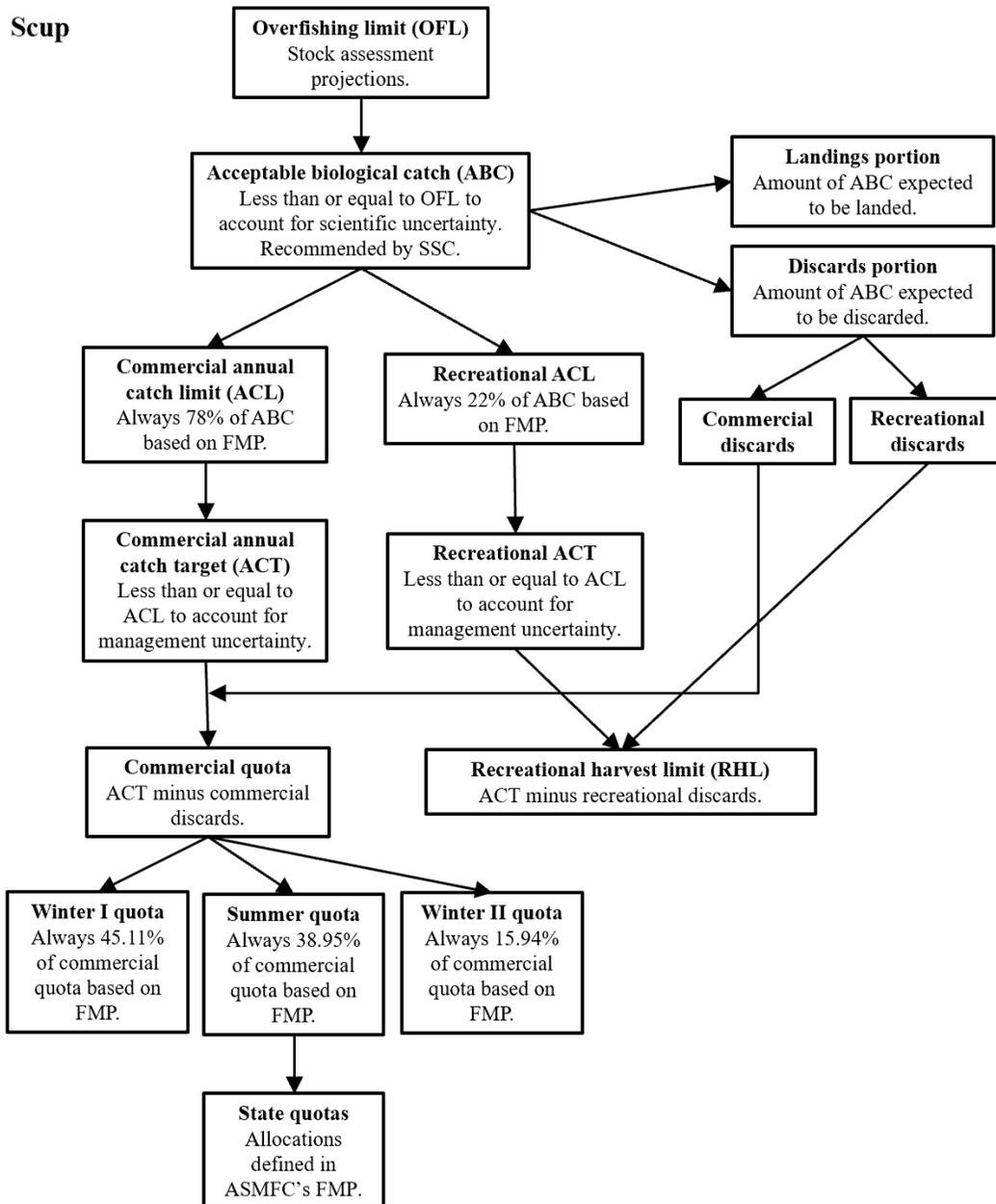


Figure 3: Scup catch and landings limit calculation methodology.

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.