Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: July 29, 2020

To: Council and Board

From: Karson Coutre, Staff

Subject: Scup Specifications Review for 2021

On Tuesday, August 11, the Council and Board will review previously adopted 2021 specifications for scup and consider modifications based on revised SSC and Monitoring Committee recommendations. These modified recommendations were developed to update the 2021 specifications for consistency with the Council's revised risk policy adopted in December 2019. Materials listed below are provided for the Council and Board's consideration of this agenda item.

Please note that some materials are behind other tabs and some will be posted to supplemental materials.

1) July 2020 Scientific and Statistical Committee meeting report *(behind Tab 11)*

2) Staff memo on 2021 scup specifications dated July 7, 2020

3) Scup Data Update for 2020

4) June 2020 Advisory Panel Fishery Performance Report and additional AP comments received through July 9, 2020 *(behind Tab 5)*

5) 2020 Scup Fishery Information Document

6) Additional public comments received through July 29, 2020 *(behind Tab 5)*

The following documents will be added as supplemental meeting materials on the August meeting page under the Summer Flounder 2021 Specifications agenda item (Tab 5):

1) Monitoring Committee meeting summary from July 27

2) Advisory Panel meeting summary from July 29

SSC Report is behind

Tab 11

Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901
Phone: 302-674-2331 | FAX: 302-674-5399 | www.mafmc.org
Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 7, 2020

TO: Chris Moore, Executive Director

FROM: Karson Coutre, Staff

SUBJECT: Review of 2021 Scup Specifications

Executive Summary

In 2019, specifications for scup were set for 2020 and 2021 based on the results of an operational stock assessment which was peer reviewed and accepted in August 2019. This assessment incorporated fishery catch and fishery-independent survey data through 2018, including revised recreational catch data provided by the Marine Recreational Information Program (MRIP) for 1989-2018.

The 2019 assessment indicates that the scup stock was not overfished, and overfishing was not occurring in 2018 relative to the updated biological reference points calculated through the assessment. Spawning stock biomass (SSB) was estimated to be about 411 million pounds (186,578 mt) in 2018, about 2 times the SSB_{MSY} proxy reference point (i.e. $SSB_{40\%}$) of 207 million pounds (94,020 mt). Fishing mortality (F) 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. The 2015 year class 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.[1]

The Council and the Atlantic States Marine Fisheries Commission's (ASMFC's) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) adopted 2020-2021 annually varying specifications at their October 2019 meeting. These catch and landings limits (Table 1) were implemented via final rule May 15, 2020 (85 FR 29345), replacing the interim 2020 measures adopted in mid-2019 (84 FR 54041).

The 2021 measures currently implemented include an Acceptable Biological Catch (ABC) of 30.67 million lb or 13,913 mt, which is 14% lower than the 2020 ABC. This ABC and the corresponding sector-specific catch and landings limits for 2021 may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and Board determine that no changes are warranted. However, the Council adopted revisions to their risk policy in December 2019. The SSC should consider whether the 2021 scup ABC should be revised based on the new risk policy.

Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any potential modifications to the implemented 2021 commercial and

[1] 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

recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs) as well as the set of commercial management measures that can be modified through specifications.

The currently implemented 2020 and 2021 catch and landings limits are shown in Table 1. The methods used to derive these measures are described in more detail later in this memo.

As described below, staff recommend modifying the currently implemented catch and landings limits for 2021 to reflect recent changes to the Council's risk policy adopted in December 2019. Staff recommend no changes to the commercial measures for the scup fishery, including the minimum fish size, mesh size requirements and associated incidental possession limits, or pot/trap gear requirements for 2021.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for scup developed by the Council and Commission Advisory Panels, as well as in the corresponding Scup Fishery Information Document prepared by Council staff.[2]

[2] The Fishery Information Document and Fishery Performance Report are available at: https://www.mafmc.org/council-events/2020/july-ssc-meeting.

Table 1: Currently implemented 2020 and 2021 scup catch and landings limits based on the varying ABC approach.

Management measure	2020 (revised)		2021		Basis
	mil lb	mt	mil lb	mt	
OFL	41.17	18,674	35.30	16,012	Assessment projections
ABC	**35.77**	**16,227**	**30.67**	**13,913**	Assessment projections & risk policy
ABC discards	7.03	3,190	7.26	3,295	Assessment projections
Commercial ACL	27.90	12,657	23.92	10,852	78% of ABC (per FMP)
Commercial ACT	27.90	12,657	23.92	10,852	Set equal to commercial ACL (staff recommendation)
Projected commercial discards	5.67	2,574	5.86	2,659	80.7% of ABC discards (avg. % of dead discards from commercial fishery, 2016-2018)
Commercial quota	**22.23**	**10,083**	**18.06**	**8,194**	Commercial ACT minus discards
Recreational ACL	7.87	3,570	6.75	3,061	22% of ABC (per FMP)
Recreational ACT	7.87	3,570	6.75	3,061	Set equal to recreational ACL (staff recommendation)
Projected recreational discards	1.36	616	1.40	636	19.3% of the ABC discards (avg. % of dead discards from rec. fishery, 2016-2018)
RHL	**6.51**	**2,954**	**5.34**	**2,424**	Recreational ACT minus discards

Table 2: Staff recommended revisions to 2021 scup catch and landings limits based on the revised Council risk policy recommended in December 2019.

Management measure	2021		Basis
	mil lb	mt	
OFL	35.30	16,012	Assessment projections
ABC	**34.81**	**15,791**	Assessment projections & revised risk policy
ABC discards	8.24	3,740	Proportion from assessment projections applied to revised ABC
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

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 also recommends management measures designed to achieve these ACTs.

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.

In 2019, the SSC recommended revised 2020 and new 2021 specifications based on the 2019 operational stock assessment results. The Council and Board adopted two-year specifications for 2020-2021 based on a varying ABC approach.

The SSC is asked to review the 2021 ABC and recommend changes if warranted. Similarly, the Monitoring Committee will review the previously implemented 2021 ACL and ACT recommendations, as well as the commercial quota and recreational harvest limit (RHL), recommending any changes as needed. The Monitoring Committee will also consider whether any revisions are needed to the commercial management measures (minimum fish size, minimum mesh size, and mesh exemption programs). The Council will meet jointly with the Board in August 2020 to review the SSC, Monitoring Committee, and Advisory Panel recommendations.

Recent Catch and Landings

In 2019, the commercial scup fishery landed 13.78 million pounds (6,252 mt) of scup, about 57% of the 2019 commercial quota of 23.98 million pounds (10,877 mt, Table 3). Commercial dead discards were 6.13 million pounds (2,781 mt) in 2019, a 9% decrease from 2018. Total commercial removals in 2019 were 19.91 million pounds (9,031 mt), about 70% of the 2019 commercial ACL (28.42 million pounds/ 12,891 mt).[3]

According to revised MRIP data, estimated recreational landings in 2019 were 14.12 million pounds (6,405 mt). This estimate should not be compared to the 2019 RHL as the RHL was set using an assessment that did not include the revised MRIP estimates. Recreational dead discards totaled 1.24 million pounds in 2019 (562 mt). Recreational catch (harvest and discards) in 2019 based on the new estimation methodology was estimated to be 15.35 million pounds (6,963 mt).

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).[4] Based on preliminary 2020 dealer data, about 44% of the 2020 Winter I commercial scup quota was landed. As of June 10, 2020, 17% of the Summer commercial scup quota had been landed (Table 4).

[3] These estimates were generated by the NEFSC and may differ from commercial dead discard estimates generated by GARFO. The Northeast Regional Coordinating Council is working toward a unified database and methodology for estimating dead discards.

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

Table 3: Scup commercial and recreational landings relative to quotas and RHLs (in millions of pounds), 2015-2019. The RHL overage/underage evaluation is based on recreational harvest estimates using the old MRIP-estimation methodology.

Year	Com. landings	Com. quota	Quota underage	Rec. harvest (old MRIP estimates)	RHL	RHL underage	Rec. harvest (new MRIP estimates)
2015	17.03	21.23	-20%	4.41	6.80	-35%	11.93
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%		7.37		14.12

Table 4: Commercial scup landings during the 2020 Winter I and Summer quota periods (as of the week ending June 10, 2020), 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, 2020*	**Summer** Landings (pounds) May 1 – June 10, 2020*
Maine	N/A	0
New Hampshire		0
Massachusetts		50,335
Rhode Island		796,371
Connecticut		64,048
New York		502,545
New Jersey		9,286
Delaware		0
Maryland		0
Virginia		5,943
North Carolina		194
Other		0
Total landings	**4,730,147**	**1,428,726**
Quota	**10,820,000**	**8,658,277**
Percent of Quota	**44%**	**17%**

*Note: The Winter I period lasts from January 1 through April 30. The 2019 Summer period lasts from May 1 through September 30. Landings in this table are from the NMFS quota monitoring site, which reports landings by week, rather than by quota period; thus, the Winter I landings shown above do not account for 100% of the 2020 Winter I landings.

Stock Status and Biological Reference Points

A scup operational stock assessment was peer reviewed and accepted in August 2019. This assessment retained the model structure of the previous benchmark stock assessment, completed in 2015,[5] and incorporated fishery catch and fishery-independent survey data through 2018, including revised recreational data provided by MRIP for 1981-2018. The following information is based on the prepublication draft of the August 2019 operational assessment prepared for use by the Council and SSC.[6]

The updated fishing mortality reference point is F_{MSY} proxy = $F_{40\%}$ = 0.215 and the updated biomass reference point is SSB_{MSY} proxy = $SSB_{40\%}$ = 207.279 million pounds (94,020 mt). The minimum biomass threshold of ½ SSB_{MSY} proxy = ½ $SSB_{40\%}$ = 103.639 million pounds (47,010 mt, Table 5).

According to the 2019 operational stock 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 2018. Spawning stock biomass (SSB) was estimated to be about 411 million pounds (186,578 mt) in 2018, about 2 times the SSB_{MSY} proxy reference point of 207 million pounds (94,020 mt, Figure 1), meaning that the stock was not overfished in 2018. Fishing mortality on fully selected age 3 scup was 0.158 in 2018, about 73% of the F_{MSY} proxy reference point of 0.215 (Figure 2), meaning that overfishing was not occurring in 2018. The 2015 year class 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 1).

In July 2020, Northeast Fisheries Science Center (NEFSC) provided a data update for 2020, including updated landings information as well as NEFSC trawl survey indices through 2019. From 2018 to 2019, survey indices of abundance decreased for the fall survey (4.35 to 2.24 kg/tow) and increased for the spring survey (1.24 to 2.59 kg/tow).[7]

[5] 60th Northeast Stock Assessment Workshop (2015) assessment report and peer review summaries are available at: https://www.nefsc.noaa.gov/saw/reports.html

[6] Available at: http://www.mafmc.org/ssc-meetings/2019/september-9-11

[7] Available at: https://www.mafmc.org/council-events/2020/july-ssc-meeting

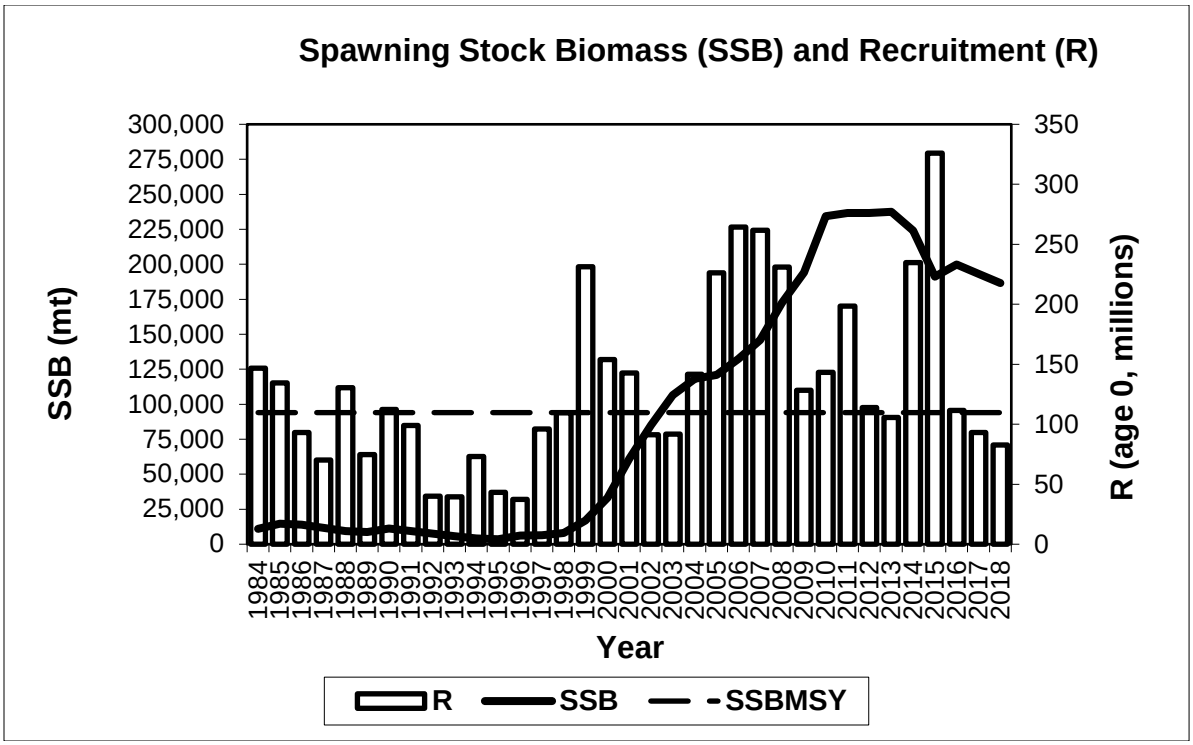

Figure 1: Scup SSB and recruitment at age 0, 1984-2018 from the 2019 operational stock assessment.

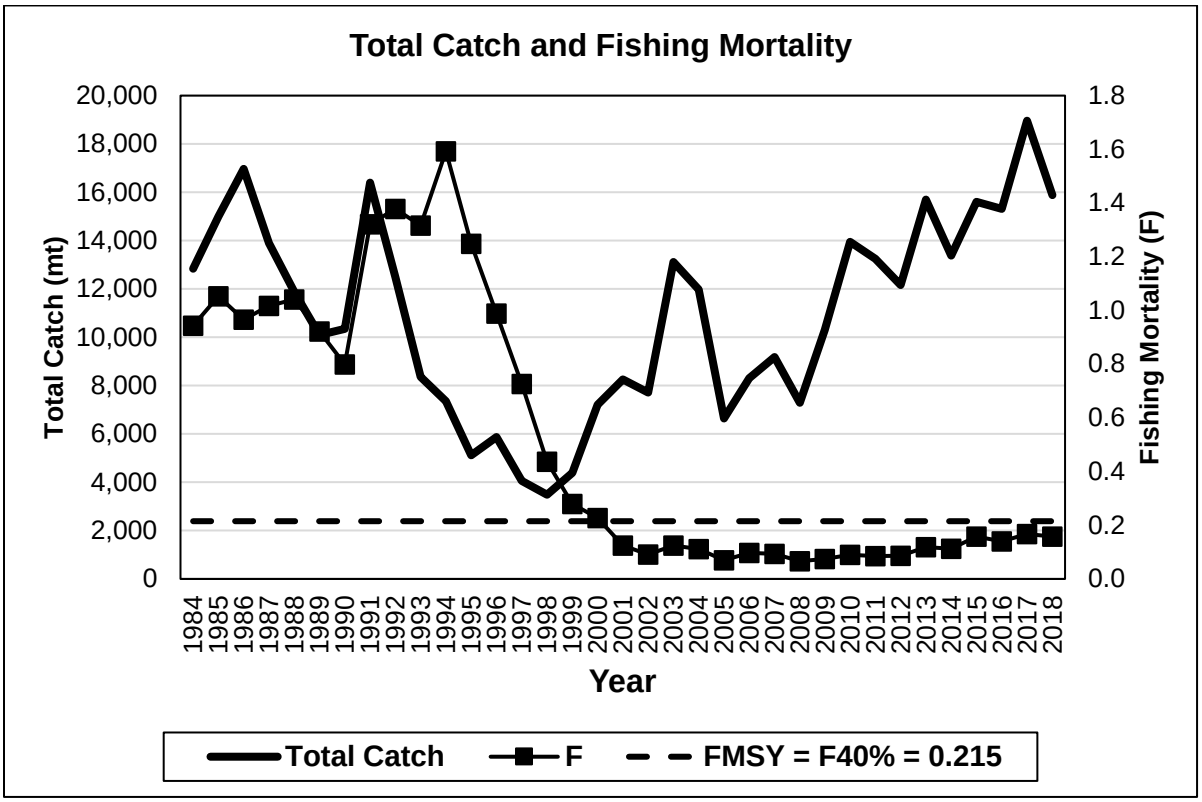

Figure 2: Scup total catch and fishing mortality, 1984-2018 from the 2019 operational stock assessment.

Table 5: Scup biological reference points from the 2015 benchmark stock assessment and 2019 operational stock assessment.

Reference Points and terminal year SSB and F estimates	**2015 benchmark stock assessment**[8] Data through 2014	**2019 operational stock assessment**[9] Data through 2018
$SSB_{MSY\ proxy} = SSB_{40\%}$ (biomass target)	192.47 mil lb/ 87,302 mt	207.28 mil lb/ 94,020 mt
½ SSB_{MSY} (biomass threshold defining an overfished status)	96.23 mil lb/ 43,651 mt	103.639 mil lb/ 47,010 mt
Terminal year SSB	403.26 mil lb/ 182,915 mt (2014) 210% of SSB_{MSY}	411 mil lb/186,578 mt (2018) 198% of SSB_{MSY}
$F_{MSY\ proxy} = F_{40\%}$ (threshold defining overfishing)	0.220	0.215
Terminal year F	0.127 (2014) 42% below F_{MSY}	0.158 (2018) 27% below F_{MSY}

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).

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 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.

Table 6 shows the previously approved OFLs and ABCs. 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

[8] 60th Northeast Stock Assessment Workshop (2015) assessment report and peer review summaries are available at: https://www.nefsc.noaa.gov/saw/reports.html

[9] 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

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 and ABCs, as well as the associated fishing mortality rate, P*, and SSB projections (Source: personal communication, Mark Terceiro, Northeast Fisheries Science Center).

Year	OFL total catch		ABC total catch		ABC F	ABC P*	SSB	
	mil lb	mt	mil lb	mt			mil lb	mt
2020	41.17	18,674	35.77	16,227	0.185	0.40	362.73	164,530
2021	35.30	16,012	30.67	13,913	0.185	0.40	335.80	152,318

The SSC considered the following to be the most significant sources of uncertainty in the 2019 operational assessment:[10]

- 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, 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:[11]

- 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.

[10]A summary of the September 2019 SSC meeting is available at: https://www.mafmc.org/ssc-meetings/2019/september-9-11
[11]A summary of the July 2015 SSC meeting is available at: http://www.mafmc.org/ssc-meetings/2015/july-21-23

Revisions to the Council's Risk Policy

The Council first implemented a risk policy and ABC control rule in 2011 to comply with the 2006 re-authorization of the MSA. In 2017, the Council expressed interest in more comprehensively considering economic and social factors in addition to biological factors in its risk policy. In 2019, a workgroup comprised of NOAA Fisheries staff, SSC members, academics and Council staff was formed and tasked with developing and analyzing various risk policy alternatives in order to assess the short and long-term trade-offs between stock biomass protection and economic yield and benefits. Members of the workgroup built off their existing biological and economic management strategy evaluation (MSE) models.

The Council considered nine different risk policy alternatives at its December 2019 meeting, ultimately approving a combination of two alternatives described in the document.[12] The approved risk policy allows for increased risk under high stock biomass conditions (increased P* at most biomass levels, compared to the previous risk policy; Figure 3). The change is greatest for stocks with biomass above the target level (B_{MSY}). The revised risk policy retains the previous stock replenishment threshold (i.e., biomass levels where P*=0) of $B/B_{MSY} \leq 0.1$. The policy uses a linear ramping for B/B_{MSY} values less than 1.0 up to a maximum P* of 0.45 when stock biomass is at its target. For stocks with B/B_{MSY} values over 1.0, a second linear ramp is used up to a maximum P* of 0.49 for stocks at or above $B/B_{MSY} = 1.5$.

In addition to the changes described above, the Council also approved removing the typical/atypical designation associated with the current risk policy.

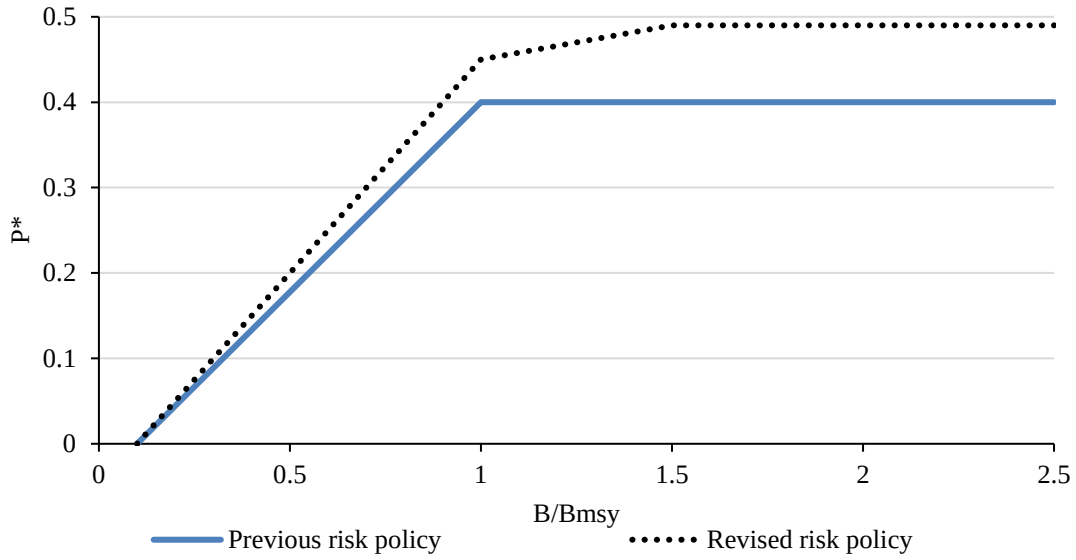

Figure 3: Acceptable probability of overfishing (P*) at different biomass levels under the Council's previous and revised risk policies.

[12] Alternatives 2 and 8 described in the December 2019 discussion document available at http://www.mafmc.org/briefing/december-2019.

Staff Recommendation for 2021 ABC

Staff recommend revising the previously implemented specifications for scup for the 2021 fishing year based on the recent revisions to the Council's risk policy, as described in Table 2 and Table 7. This would revise the 2021 ABC from 30.67 million pounds (13,912 mt) to 34.81 million pounds (15,790 mt). This represents a 13% increase in the ABC. Recommended revisions were calculated based on the Council's revised risk policy using the currently implemented 2021 OFL of 35.30 million pounds (16,012 mt), a projected 2021 B/Bmsy of 1.63, and the SSCs currently applied OFL CV of 60%.

Table 7: Current and staff recommended 2021 ABCs and P* values.

Measure	2021: Current	2021: Staff Recommendation
ABC	30.67 mil lb (13,913 mt)	34.81 mil lb (15,791 mt)
P*	0.40	0.49

Other Management Measures

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 and 22% is allocated to the recreational fishery as a recreational ACL (Figure 3). ACLs include both landings and discards. 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.

If the SSC adopts the revised 2021 ABC recommended in the previous section, the 2021 commercial ACL would be 27.15 million pounds (12,317 mt) and the 2021 recreational ACL would be 7.66 million pounds (3,474 mt).

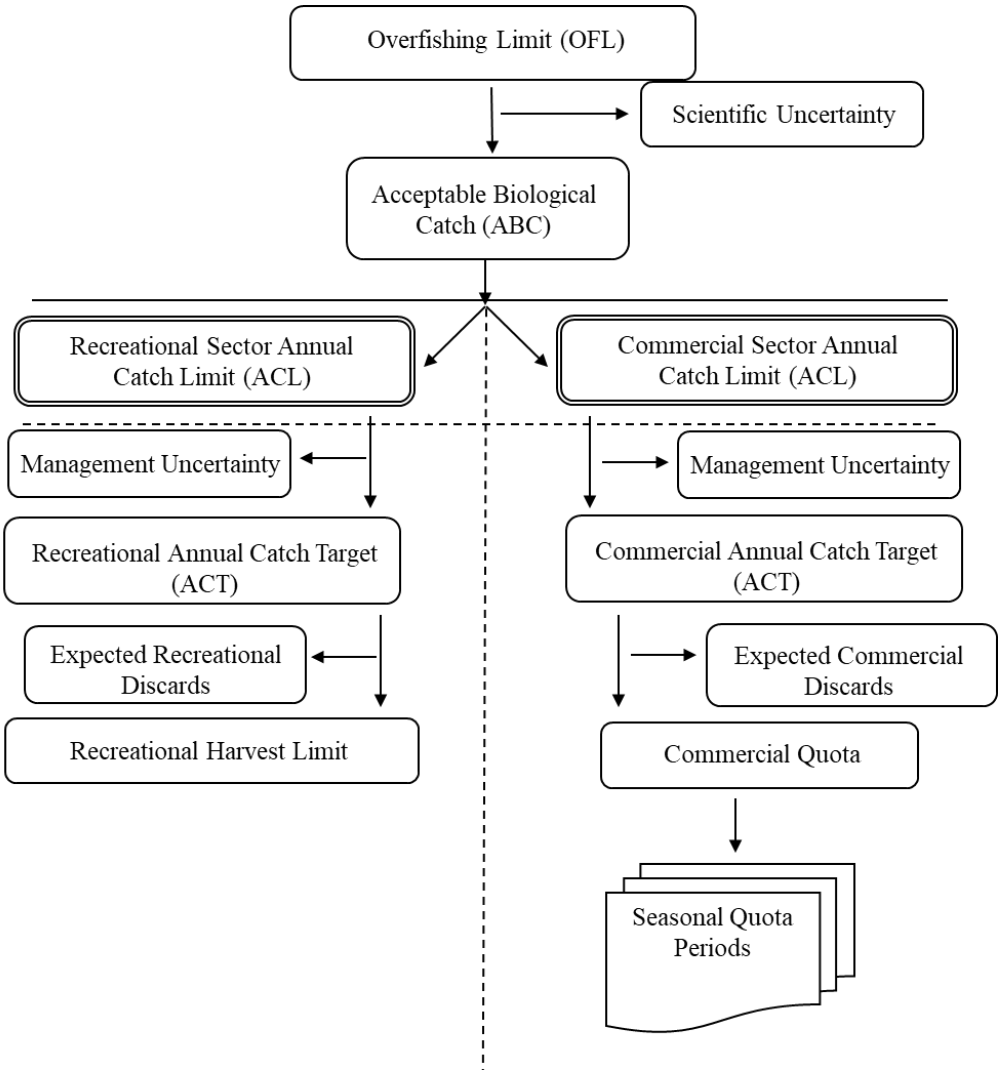

Figure 4: Scup catch and landings limit calculation methodology.

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 have been consistently below the quota and RHL. MRIP data using the old methodology is unavailable for 2019; therefore, RHL performance cannot be evaluated for 2019. The commercial quota monitoring

system is timely and typically successful in constraining landings to the commercial quota.

In recent years, the Monitoring Committee and the Commission's Technical Committee have spent a great deal of time developing new and alternative methodologies to evaluate management uncertainty in the recreational fishery, the predictability and uncertainty in recreational catch estimates, and the influence of recreational regulations on harvest. These Committees plan to continue to work to make improvements to the evaluation process for recreational measures. For 2021, staff recommend no reduction in catch from the recreational or commercial ACLs so that each sector's ACT is set equal to the ACL.

Commercial Quotas and Recreational Harvest Limits (RHLs)

Staff recommend maintaining the currently implemented split of the ABC into expected discards (24%) and landings (76%), which was included in the NEFSC's 2021 ABC projections, and applying these proportions to the revised 2021 ABC to project discards. While this split does not impact the sector-specific ACLs which are derived using the catch-based allocation, total projected discards are used to derive the commercial quotas and RHLs for scup by subtracting projected discards from the sector-specific ACTs. Projected discards from the stock assessment are typically apportioned between commercial and recreational fisheries using the average percent of dead discards attributable to each sector over the past three years (Figure 4, Table 1). This requires the assumption that patterns in discards will be similar in future years as in past years. Changes in regulations, availability, year class strength, market demand, and other factors can impact discards from one year to the next.

The currently implemented 2021 specifications assume that 80.7% of total dead discards will come from the commercial fishery and 19.3% from the recreational fishery based on 2016-2018 data (Table 1). While the MC had recommended using a 10 year average instead, the Council and Board adopted limits based on a 3 year average. The increase in the proportion attributable to the recreational fishery compared to previous years (e.g., 12.7% during 2014-2016)[13] is based in part on the revisions to the MRIP data which suggest that recreational catch, harvest, and discards are higher than previously thought.

After subtracting projected discards from the recommended commercial ACT, the recommended 2021 commercial quota under the revised ABC is 20.50 million pounds (9,299 mt; Table 2). Under this recommended commercial quota, the 2021 Winter I quota would be 9.25 million pounds (4,194 mt), the Summer quota would be 7.99 million pounds (3,622 mt), and the Winter II quota would be 3.27 million pounds (1,483 mt). All Winter II quotas are prior to any quota rollover from Winter I, if applicable.

After subtracting projected discards from the recommended recreational ACT, the recommended 2021 RHL is 6.07 million pounds (2,752 mt; Table 2).

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

[13] Scup Assessment Update for 2017 is available at: http://www.mafmc.org/ssc-meetings/2017/july-19-20

federal possession limits during the Summer quota period; however, there are state possession limits.

Most commercial scup trips in recent years landed well below the Winter I and Winter II possession limits. These 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. Staff recommend no changes to the Winter I and Winter II possession limits for 2021.

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 Founder, Scup, and Black Sea Bass Commercial Management Measures Review document from 2015.[14] In the past, advisors have expressed differing opinions on the commercial minimum fish size for scup. Staff recommend that this regulation remain unchanged in 2021.

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 undersized fish.

The Monitoring Committee reviewed the results of this study in 2018 and recommended no changes to the commercial minimum mesh sizes for 2019. They recommended clarification of the objectives of the Council regarding consideration the mesh sizes (e.g., establishing a common minimum mesh size,

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

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 in 2020 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 2021.

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 2021.

Recreational Seasons, Possession Limits, and Minimum Size

The Council and Board will discuss 2021 recreational scup seasons, possession limits, and minimum fish sizes at their joint meeting in December 2020. Data from the first four "waves" (i.e. the two-month reporting increments for recreational data) of 2020 recreational landings are expected to be available in October 2020. 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 2021 recreational management measures at this time.

Scup Data Update for 2020

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

Reported 2019 landings in the commercial fishery were 6,252 mt = 13.784 million lb, an increase of 3% from 2018, and 57% of the 2019 commercial quota. Estimated 2019 landings in the recreational fishery were 6,403 mt = 14.116 million lb, an increase of 9% from 2018, and 192% of the 2019 recreational harvest limit. Total commercial and recreational landings in 2019 were 12,655 mt = 27.899 million lb, an increase of 6% from 2018 (Figure 1).

The NEFSC fall 2015 and spring 2016 survey biomass indices were record highs for the time series, although both seasonal indices have since decreased (Figure 2). The NEFSC fall survey length frequency distributions suggest that a very large year class (modes at less than 10 cm fork length) recruited to the stock in 2015 (Figure 3).

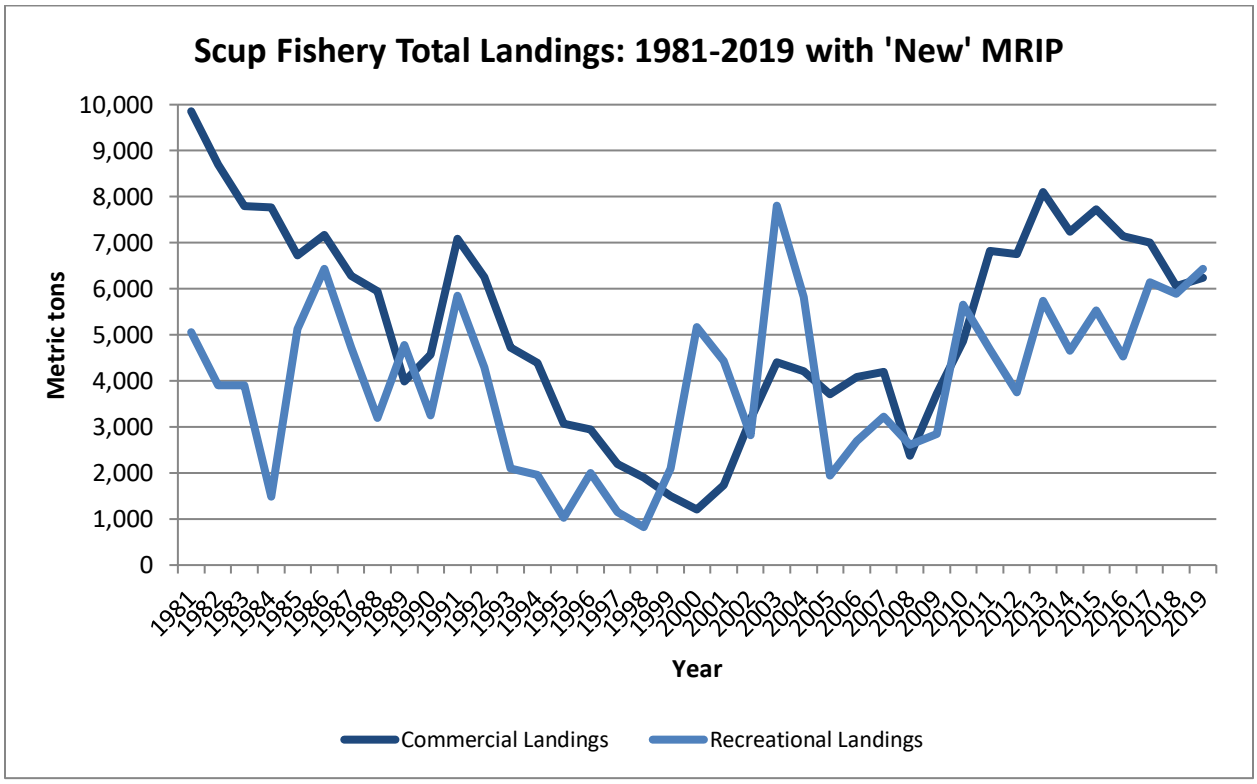

Figure 1. Scup fishery total landings.

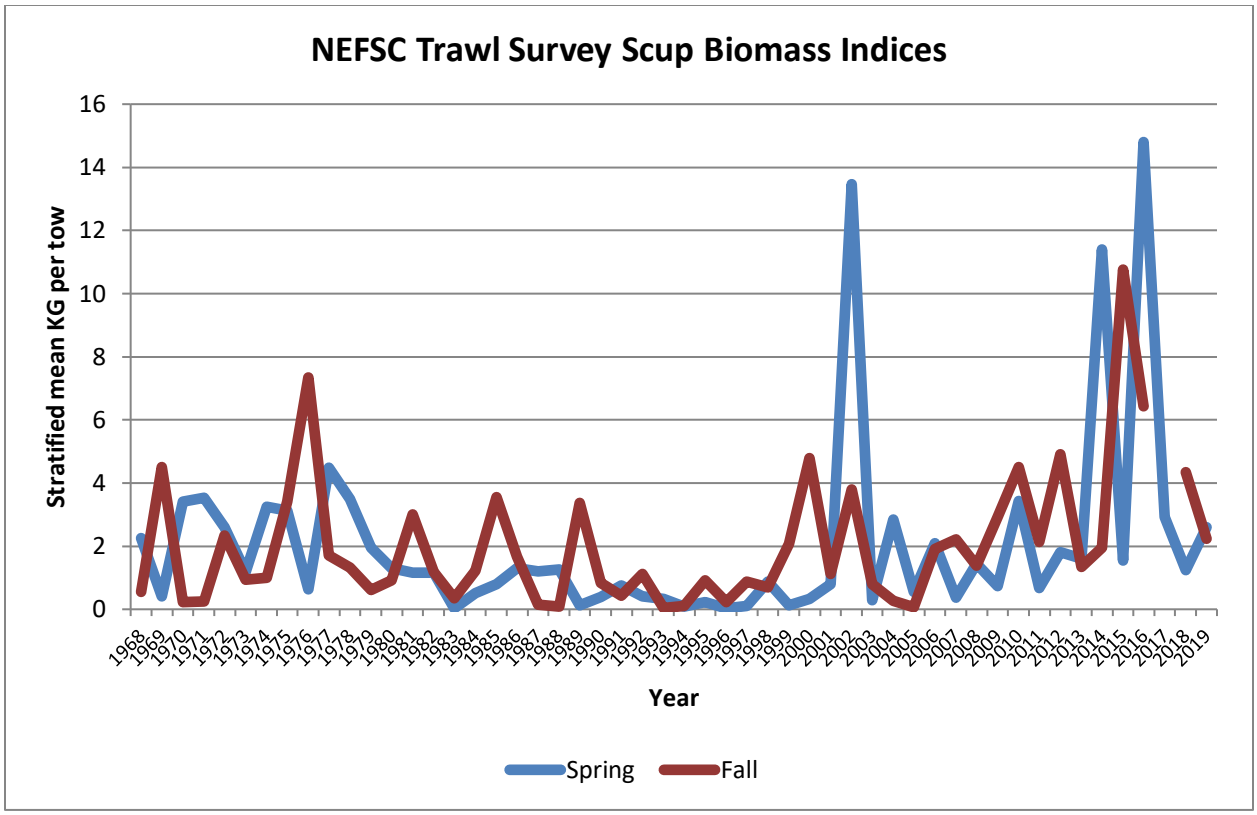

Figure 2. NEFSC trawl survey biomass indices for scup. Indices are FSV Albatross IV equivalents. There is no valid fall 2017 index for scup.

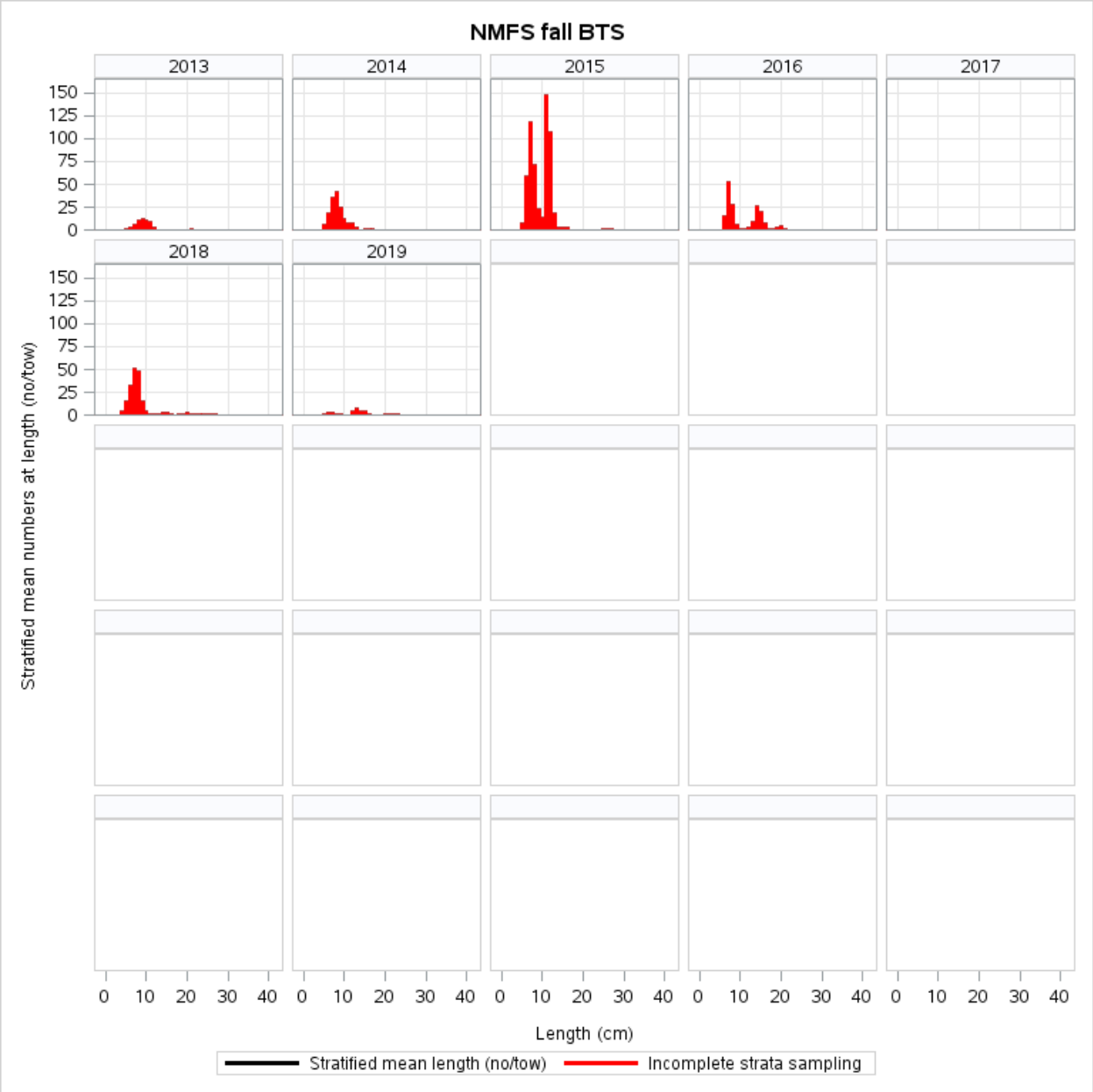

Figure 3. Northeast Fisheries Science Center (NEFSC) fall trawl survey indices at length. There is no valid fall 2017 index for scup.

The Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report is behind Tab 5

Scup Fishery Information Document

June 2020

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 2019. Data Sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) survey, 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.
- Commercial landings increased by about 0.4 million pounds and recreational landings increased by about 1.2 million pounds from 2018 to 2019.
- Commercial discards decreased by 9% from 2018 to 2019 but remain above average.
- Price per pound decreased by $0.07 and total ex-vessel value decreased by $0.7 million in 2019.
- The majority of the 14.12 million pounds of scup harvested recreationally in 2019 was caught by private vessels (56%) and anglers fishing from shore (29%).

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

Scup underwent an operational assessment in 2019 which included the revised MRIP values and 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 recent operational assessment are described in Table 1.

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

Reference Points and terminal year SSB and F estimates	**2019 operational stock assessment**[4] 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

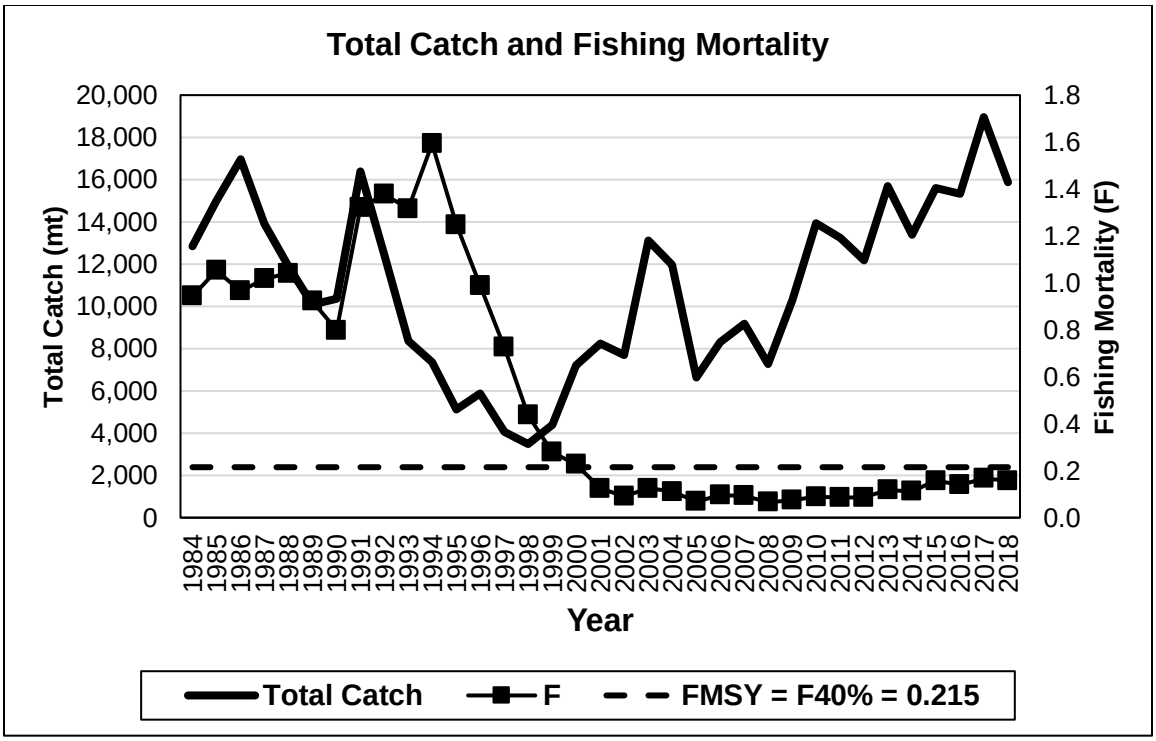

Figure 1: Total fishery catch and fishing mortality rate (F) for fully selected age 3 scup, 1984-2018. The horizontal dashed line is the fishing mortality reference point from the from the 2019 operational stock assessment. Overfishing is occurring when the fishing mortality rate exceeds this threshold.[4]

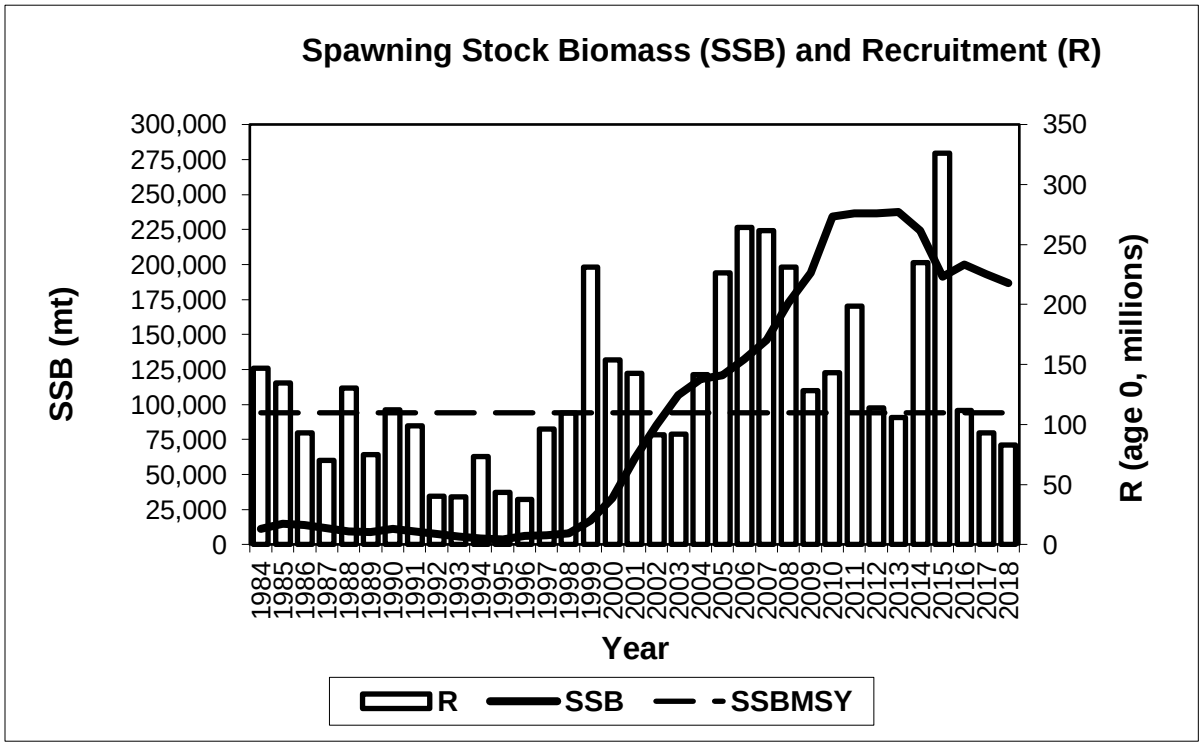

Figure 2: Scup spawning stock biomass and Recruitment, 1984-2018. The horizontal dashed line is the biomass target from the from the 2019 operational stock assessment.[4]

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). 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.

Table 2 shows scup catch and landings limits from 2010 through 2020, as well as commercial and recreational landings through 2019.

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 2019, about 27.90 million pounds of scup were landed by commercial and recreational fishermen (Figure 3).[5,6]

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 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. The RHLs and other management measures through 2019 were based on the old MRIP estimates.

Table 2: Summary of scup catch limits, landings limits, and landings, 2010 through 2020. Values are in millions of pounds unless otherwise noted.

Measure	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021[d]
ABC	17.09	51.70	40.88	38.71	35.99	33.77	31.11	28.40	39.14	36.43	35.77	30.67
TAC[a]	17.09	31.92	--	--	--	--	--	--	--	--	--	--
Commercial ACL	--	--	31.89	30.19	28.07	26.35	24.26	22.15	30.53	28.42	27.90	23.92
Commercial quota[b]	10.68	20.36	27.91	23.53	21.95	21.23	20.47	18.38	23.98	23.98	22.23	18.06
Commercial landings	10.40	15.03	14.88	17.87	15.96	17.03	15.76	15.44	13.37	13.78	--	--
% of commercial quota landed	97%	74%	53%	76%	72%	80%	77%	84%	55%	57%	--	--
Recreational ACL	--	--	8.99	8.52	7.92	7.43	6.84	6.25	8.61	8.01	7.87	6.75
RHL[b]	3.01	5.74	8.45	7.55	7.03	6.80	6.09	5.50	7.37	7.37	6.51	5.34
Recreational landings, old MRIP estimates	5.97	3.67	4.17	5.37	4.43	4.41	4.26	5.42	5.61	--	--	--
% of RHL harvested (based on old MRIP estimates)[c]	198%	64%	49%	71%	63%	65%	70%	98%	76%	--	--	--
Recreational landings, new MRIP estimates	12.48	10.32	8.27	12.64	10.27	12.17	10.00	13.53	12.98	14.12	--	--

[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 previous or old MRIP estimates. 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.

[d] The 2021 measures are subject to revision by the SSC, the Council, and the Commission.

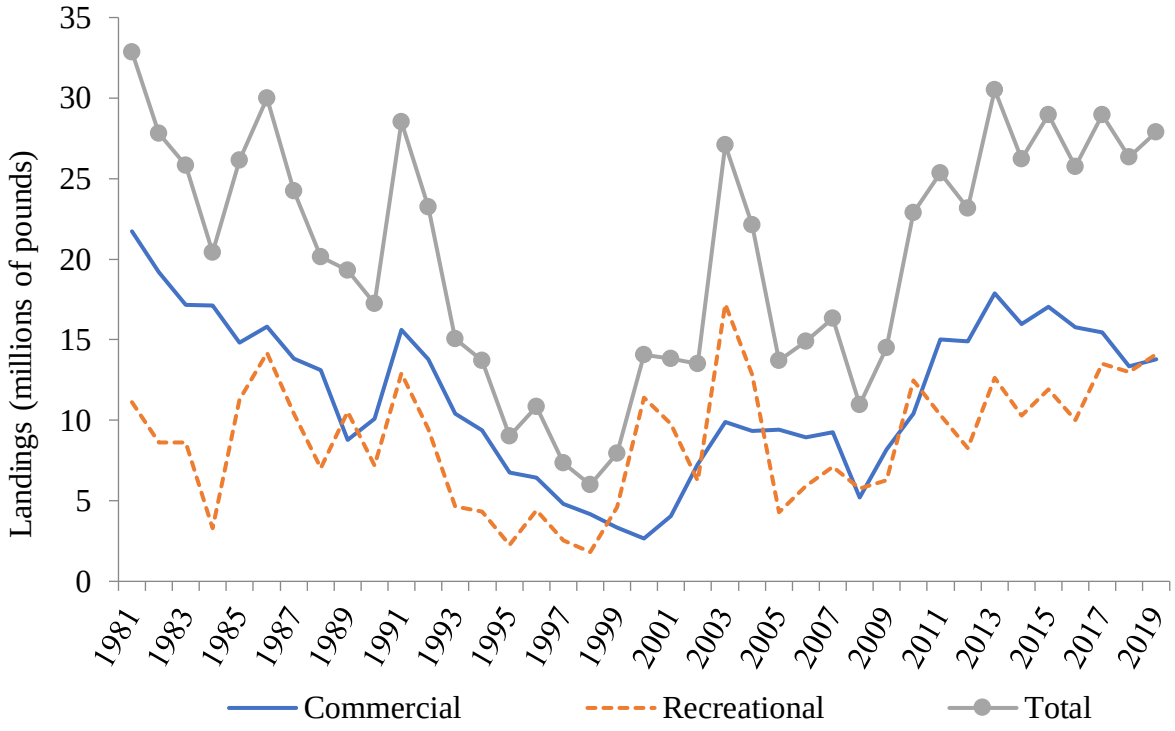

Figure 3: Commercial and recreational scup landings, Maine - North Carolina, 1981-2019. Recreational landings are based on the new MRIP numbers.[5,6]

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 2019, commercial fishermen landed 13.78 million pounds of scup, about 57% of the commercial quota.[5]

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 resulted in the 2017 commercial ACL being exceeded by about 17% and the ABC being exceeded by about 11%, despite a quota underage. This increase in discards was likely mainly due to the large 2015 year class, which is the largest year class since at least 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.[5,7]

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 2019, about 81% of the commercial scup landings (by weight) reported by state and federal dealers were caught with bottom otter trawls. Pots/traps accounted for about 5% of landings, handlining accounted for 2% of landings, while all other gear types each accounted for 1% or less of the 2019 commercial scup landings. Notably 9% of landings reported by dealers were of an unknown gear type. This includes landings from vessels that are only permitted to fish in state waters and do not submit federal VTRs, resulting in incomplete information on gear type in the data set.[7]

In 2018, 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, 613, 616, 539 and 611 were responsible for the largest percentage of commercial scup catch in 2019. 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 $12.2 million in 2015. In 2019, 13.78 million pounds of scup were landed by commercial fishermen from Maine through North Carolina. Total ex-vessel value in 2019 was $9.20 million, resulting in an average price per pound of $0.67. All revenue and price values were adjusted to 2019 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 $2.18 and occurred in 1998. The lowest average price per pound was $0.60 and occurred in 2013.[5]

Over 160 federally-permitted dealers from Maine through North Carolina purchased scup in 2019. 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 18 ports in 6 states in 2019. These ports accounted for approximately 90% of all 2019 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] The ports and communities with the greatest participation in the scup fishery are described in Amendment 13 to the FMP (available at http://www.mafmc.org/sf-s-bsb/). 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 2019, 616 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 2018-2019/2020.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2018	1,000 lb				200 lb					1,000 lb		
2019 & 2020	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) in 2019, with associated number of trips.[7]

Statistical area	% of 2019 commercial scup catch	Number of trips
537	22%	1060
613	21%	1141
616	20%	627
539	12%	2268
611	6%	1729

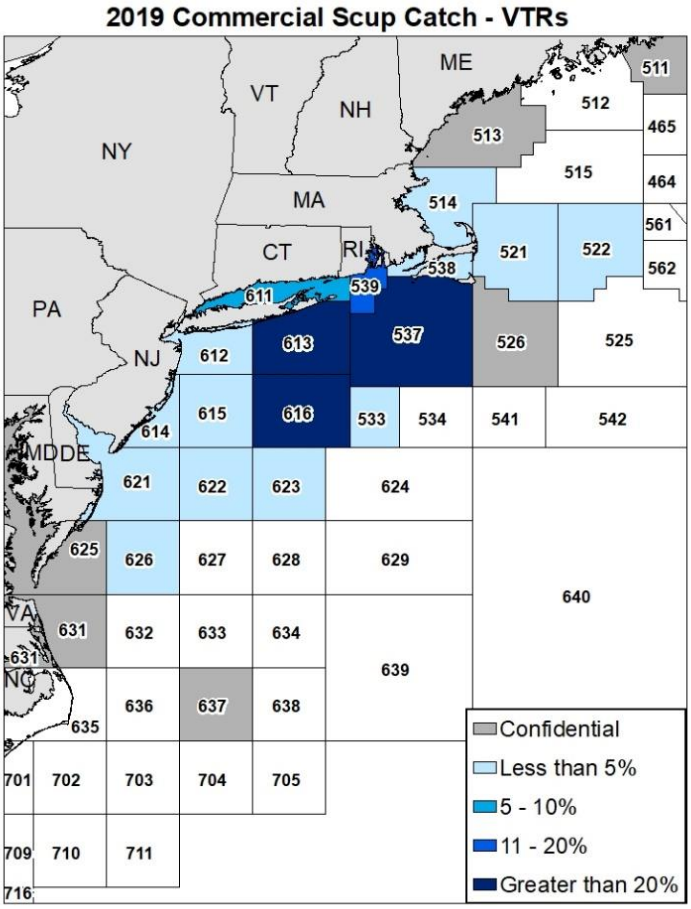

Figure 4: Proportion of scup catch by statistical area in 2019 based on federal VTR data. Statistical areas marked "confidential" are associated with fewer than three vessels and/or dealers. Statistical areas with confidential data collectively accounted for less than 1% of commercial catch reported on VTRs in 2019. Northeast Fisheries Science Center Data ("AA tables") suggest that 18% of total commercial landings (state and federal) in 2019 were not associated with a statistical area reported in federal VTRs.[9]

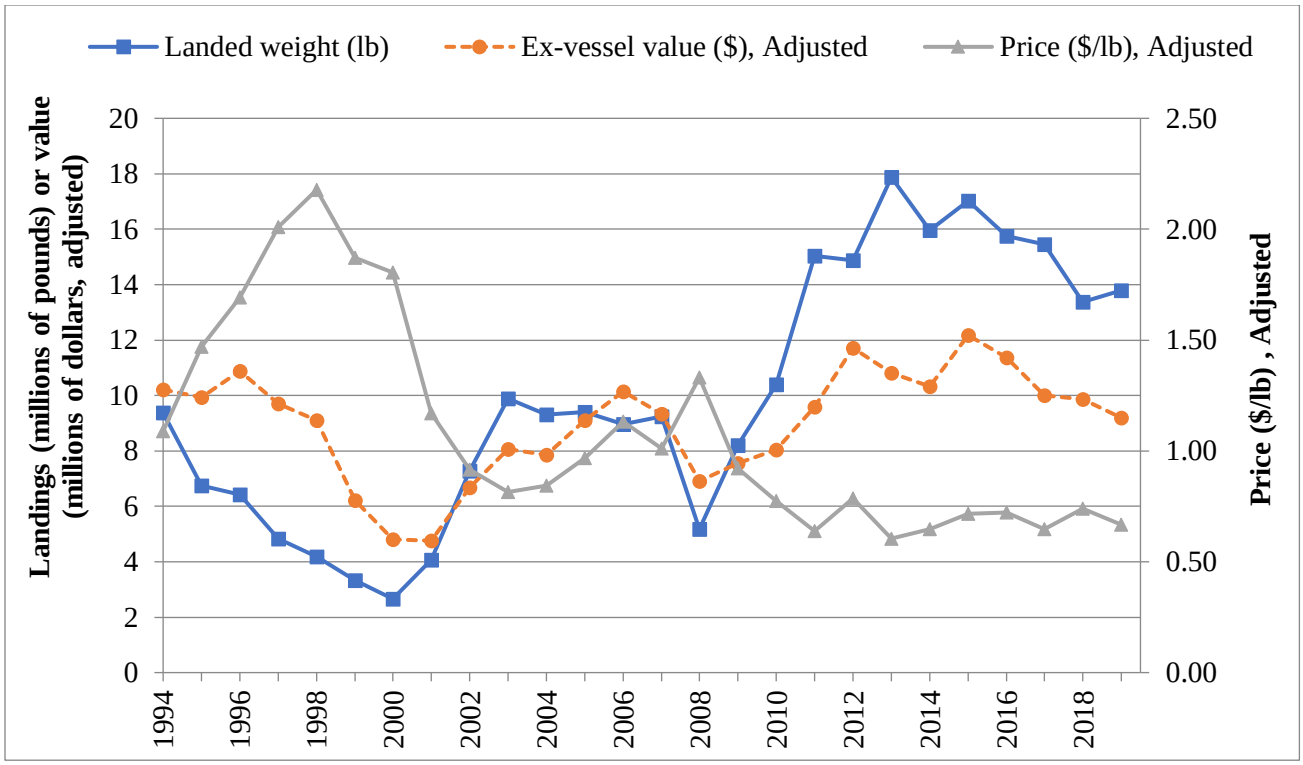

Figure 5: Landings, ex-vessel value, and price for scup from Maine through North Carolina, 1994-2019. Ex-vessel value and price are inflation-adjusted to 2019 dollars using the Gross Domestic Product Price Deflator.[5]

Table 7: Number of dealers per state which reported purchases of scup in 2019. C = Confidential.[5]

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of Dealers	24	32	17	42	21	C	C	12	12

Table 8: Ports reporting at least 100,000 pounds of scup landings in 2019, based on NMFS dealer data. C = Confidential.[5]

Port	Scup Landings (lb)	% of total commercial scup landings	Number of vessels
POINT JUDITH, RI	3,831,399	28%	127
MONTAUK, NY	2,939,960	21%	76
PT. PLEASANT, NJ	1,382,156	10%	36
NEW BEDFORD, MA	902,313	7%	52
STONINGTON, CT	539,479	4%	19
MATTITUCK, NY	326,299	2%	7
NEW LONDON, CT	325,359	2%	7
HAMPTON BAYS, NY	315,355	2%	30
CAPE MAY, NJ	304,501	2%	20
HAMPTON, VA	275,071	2%	39
LITTLE COMPTON, RI	236,024	2%	11
OCEAN CITY, MD	222,251	2%	4
EAST HAVEN, CT	196,976	1%	7
WARWICK, RI	164,180	1%	C
AMMAGANSETT, NY	142,573	1%	C
BELFORD, NJ	127,752	1%	15
NEWPORT, RI	121,788	1%	11
CHINCOTEAGUE, VA	109,757	1%	12

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 2017-2019.

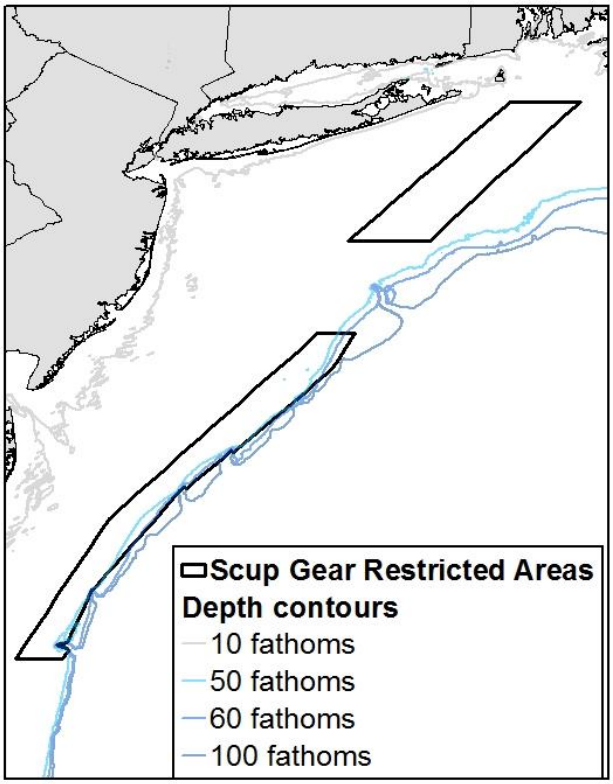

Figure 6: The Scup Gear Restricted Areas.

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.

As previously described, MRIP released a revised time series of recreational fishery data in July 2018. The revised catch, harvest, and effort estimates for scup are substantially higher than the previous estimates. Information presented in this section is based on the new estimates.

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 recreational harvest limit. 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 2020 (Table 10).

From 1981-2019, 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 28.67 million scup and landed 14.95 million scup (about 14.12 million pounds) in 2019 (Table 11).[6]

Vessels carrying passengers for hire in federal waters must obtain a federal party/charter permit. In 2019, 730 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 2017 and 2019, about 96% of recreational scup catch (in numbers of fish) occurred in state waters and about 4% occurred in federal waters (Table 12). New York, Massachusetts, Connecticut, Rhode Island, and New Jersey accounted for over 99.9% of recreational scup harvest in 2019 (Table 13).[6]

About 56% of recreational scup landings (in numbers of fish) in 2019 were from anglers who fished on private or rental boats. About 15% were from anglers fishing on party or charter boats, and about 29% were from anglers fishing from shore (Table 14).[6]

Table 9: Federal recreational measures for scup, 2005-2020.

Regulation	2005-2007	2008-2009	2010-2011	2012	2013	2014	2015-2020
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 and 2020.

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 designed 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, 2010- 2019, 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
2010	25.13	10.60	12.48	42%
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%

Table 12: Estimated percent of scup (in numbers of fish) caught by recreational fishermen in state and federal waters, Maine - North Carolina, 2010 – 20198, based on the revised MRIP estimates.[6]

Year	State waters	Federal waters
2010	94.4%	5.6%
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%
2010-2019 average	**96.6%**	**3.4%**
2017-2019 average	**95.9%**	**4.1%**

Table 13: Recreational scup harvest by state, 2017- 2019. Percentages were calculated based on numbers of fish using the revised MRIP estimates.[6]

State	2017	2018	2019	2017-2019 average
Maine	0%	0%	0%	0%
New Hampshire	0%	0%	0%	0%
Massachusetts	15%	22%	13%	17%
Rhode Island	10%	16%	22%	16%
Connecticut	12%	21%	17%	17%
New York	47%	37%	48%	44%
New Jersey	16%	3%	1%	7%
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, 2010 – 2019, 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
2010	18%	13%	70%	10,598,648
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
2010-2019 average	25%	12%	63%	**11,053,031**
2017-2019 average	32%	12%	56%	**14,440,085**

References

[1] Steimle, F.W, C. A. Zetlin, P. L. Berrien, D. L. Johnson, S. Chang. 1999. Essential Fish Habitat source document: Scup, *Stenotomus chrysops*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-149; 39 p.

[2] Northeast Data Poor Stocks Working Group. 2009. The northeast data poor stocks working group report, part A: skate species complex, deep sea red crab, Atlantic wolf fish, scup, and black sea bass. Northeast Fish Science Center Reference Document 09-02; 496 p. Available at: http://www.nefsc.noaa.gov/publications/crd/crd0902/.

[3] Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment (60th SAW) assessment report. Northeast Fisheries Science Center Reference Document 15-08. Available at: http://www.nefsc.noaa.gov/publications/.

[4] Northeast Fisheries Science Center. 2019. Prepublication copy of the August 2019 operational stock assessment report prepared for the Council and the SSC. Available at: http://www.mafmc.org/ssc-meetings/2019/september-9-11

[5] Unpublished NMFS commercial fish dealer data (i.e., "DERS"), which include both state and federal dealer data).

[6] Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed June 2020. Available at: https://www.st.nmfs.noaa.gov/recreational-fisheries/data-and-documentation/queries/index.

[7] Unpublished NMFS dealer data (i.e., "AA tables", which include both state and federal dealer data).

[8] Terceiro, M., A. Miller. 2014. Commercial fishery scup discarding and the Gear Restricted Areas (GRAs). White paper for the Mid-Atlantic Fishery Management Council. 30 p.

[9] Unpublished NMFS Vessel Trip Report data.

[10] Unpublished NMFS permit data.

Additional public comments are behind Tab 5