

Mid-Atlantic Fishery Management Council

800 North State Street, Suite 201, Dover, DE 19901-3910 Phone: 302-674-2331 | Toll Free: 877-446-2362 | FAX: 302-674-5399 | www.mafmc.org Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 9, 2015

TO: Chris Moore, Executive Director

FROM: Julia Beaty and Kiley Dancy, Staff

SUBJECT: Scup Management Measures for 2016-2018

Executive Summary

The most recent benchmark stock assessment for scup was peer-reviewed and accepted by the Stock Assessment Review Committee (SARC) in June 2015. The assessment indicated that the scup stock was not overfished and overfishing was not occurring in 2014. The assessment model estimated a spawning stock biomass (SSB) of 403.27 million pounds (182,915 mt) in 2014. This is approximately two times the biomass at maximum sustainable yield (SSB_{MSY proxy} = SSB_{40%} = 192.47 million pounds = 87,302 mt). The fishing mortality rate on fully selected age 3 scup was 0.127 in 2014. This is 42% less than the fishing mortality threshold reference point of 0.220 ($F_{MSY proxy}=F_{40\%}$; Terceiro 2015).

<u>Staff recommend an Acceptable Biological Catch (ABC) of 33.23 million pounds (15,074 mt) for 2016.</u> This results in a commercial Annual Catch Limit (ACL) of 25.92 million pounds (11,758 mt) and a recreational ACL of 7.31 million pounds (3,316 mt). Staff recommend that the commercial Annual Catch Target (ACT) and the recreational ACT be set equal to their respective sector Annual Catch Limits (ACLs) for 2016. After removing projected discards, the recommended 2016 commercial quota is 21.87 million pounds (9,919 mt) and the recommended recreational harvest limit is 6.51 million pounds (2,951 mt; Table 1).

For 2017, staff recommend an ABC of 30.09 million pounds (13,648 mt), a commercial ACL of 23.47 million pounds (10,645 mt), and a recreational ACL of 6.62 million pounds (3,003 mt). Staff recommend that the commercial and recreational ACTs be set equal to their respective ACLs for 2017. After removing projected discards, the recommended 2017 commercial quota is 19.47 million pounds (8,831 mt) and the recommended recreational harvest limit is 5.83 million pounds (2,643 mt; Table 1).

For 2018, staff recommend an ABC of 28.05 million pounds (12,725 mt), a commercial ACL of 21.88 million pounds (9,926 mt), and a recreational ACL of 6.17 million pounds (2,800 mt). Staff recommend that the commercial and recreational ACTs be set equal to their respective ACLs for 2018. After removing projected discards, the 2018 recommended commercial quota is 17.96 million pounds (8,147 mt) and the recommended recreational harvest limit is 5.39 million pounds (2,447 mt; Table 1).



Staff recommend that a thorough analysis of the current commercial management measures regarding minimum fish size, gear requirements, and possession limits be conducted for consideration by the Council and the Board at the December 2015 meeting. Pending additional analysis, staff have no specific recommendations regarding changes to these commercial management measures at this time.

Management	2016		2017		2018		Basis	
Measure	mil lb	mt	mil lb	mt	mil lb	mt	Dasis	
OFL	35.80	16,238	32.09	14,556	29.68	13,464	Stock assessment projections	
ABC	33.23	15,074	30.09	13,648	28.05	12,725	Stock assessment projections and Council risk policy	
ABC landings portion	28.37	12,870	25.30	11,474	23.36	10,594	Stock assessment projections	
ABC discards portion	4.86	2,204	4.79	2,174	4.70	2,131	Stock assessment projections	
Commercial ACL	25.92	11,758	23.47	10,645	21.88	9,926	78% of ABC (per FMP)	
Commercial ACT	25.92	11,758	23.47	10,645	21.88	9,926	Set equal to commercial ACL, or reduced from commercial ACL to account for management uncertainty	
Projected commercial discards	4.05	1,839	4.00	1,814	3.92	1,778	83.4% of the ABC discards portion (the average percentage of dead discards attributable to the commercial fishery from 2012- 2014)	
Commercial quota	21.87	9,919	19.47	8,831	17.96	8,147	Commercial ACT minus discards	
Recreational ACL	7.31	3,316	6.62	3,003	6.17	2,800	22% of ABC (per FMP)	
Recreational ACT	7.31	3,316	6.62	3,003	6.17	2,800	Set equal to recreational ACL, or reduced from recreational ACL to account for management uncertainty	
Projected recreational discards	0.80	365	0.79	360	0.78	353	16.6% of the ABC discards portion (the average percentage of dead discards attributable to the recreational fishery from 2012- 2014)	
Recreational harvest limit	6.51	2,951	5.83	2,643	5.39	2,447	Recreational ACT minus discards	

Table 1: Staff-recommended multi-year catch and landings limits for scup for 2016-2018.



Introduction

The Magnuson-Stevens Act (MSA) requires that the Council's Scientific and Statistical Committee (SSC) provide ongoing scientific advice for fishery management decisions, including recommendations for Acceptable Biological Catch (ABC), prevention of overfishing, and achieving maximum sustainable yield (MSY). The SSC must recommended ABCs that addresses scientific uncertainty. The MSA mandates that the Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommended by the SSC.

The Council's Monitoring Committees are responsible for developing recommendations for management measures designed to achieve the ABCs recommended by the SSC. Specifically, the Monitoring Committee must recommend Annual Catch Targets (ACTs) that are equal to or less than the ABCs to address management uncertainty, and management measures designed to achieve these ACTs.

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

This memorandum includes information to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2016-2018 fishing years. Additional information about fishery performance and past management measures can be found in the 2015 Scup Fishery Information Document prepared by Council staff, and the 2015 Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report developed by the Council and Commission Advisory Panels.

Recent Catch and Landings

According to the 2015 benchmark scup stock assessment, 15.93 million pounds (7,228 mt) of scup were landed in the commercial fishery and 4.46 million pounds (2,025 mt) were landed in the recreational fishery in 2014 (Terceiro 2015).

As of April 25, 2015, 70% of the Winter I commercial scup quota had been landed¹. As of the week ending June 27, 2015, 45% of the Summer commercial scup quota had been landed (Table 2)².

¹ Commercial scup landings are reported weekly. The week ending April 25, 2015 was the last full week in the 2015 Winter I quota period, which lasts from January 1 through April 30.

² The Summer commercial scup quota period lasts from May 1 through October 31.



Table 2: The amount of scup landed in the commercial fishery during the Winter I period (through April 25, 2015), and the Summer quota period, as of the week ending June 27, 2015, according to NMFS GARFO weekly landings reports. The Winter I quota is a coast-wide quota. The Summer period quota is allocated among states by the Atlantic States Marine Fisheries Commission.

State	Landings (pounds) January 1 – April 25, 2015 Winter I	Landings (pounds) May 1 – June 27, 2015 Summer		
Maine	0	0		
New Hampshire	0	0		
Massachusetts	445,592	210,185		
Rhode Island	1,233,012	2,368,763		
Connecticut	450,953	67,329		
New York	1,837,793	880,663		
New Jersey	2,240,829	95,494		
Delaware	0	0		
Maryland	245	17,934		
Virginia	268,436	52,594		
North Carolina	204,221	21,563		
Other	0	0		
Total landings	6,681,081	3,714,525		
Quota	9,578,008	8,270,083		

Regulatory Review

The Council and Board set scup specifications for the 2013-2015 fishing years in 2012. In 2013 and 2014, the SSC, the Monitoring Committee, the Council, and the Board reviewed these specifications, along with stock assessment data updates, and recommended no changes to the specifications for 2014 and 2015.

The SSC used a 2012 stock assessment update to recommend ABCs for 2013-2015. The SSC recommended an ABC for 2013 using the Council's risk policy for a species with a typical life history and a level 3 stock assessment (now known as an assessment with a SSC-modified OFL probability distribution). The SSC used the 2013 OFL and 2012 projected SSB to SSB_{MSY} ratio (212%) from the 2012 stock assessment update and assigned an OFL CV of 100%. This resulted in a 2013 ABC of 38.71 million pounds (17,557 mt). The SSC used a constant F assumption to derive ABCs for 2014 and 2015. The fishing mortality rate associated with the 2013 ABC was 0.142. This rate, applied in 2014 and 2015, resulted in ABCs of 35.99 million pounds (16,325 mt) and 33.77 million pounds (15,320 mt), respectively.

The most recent benchmark stock assessment for scup was completed in June 2015 and will be reviewed at the 2015 July SSC meeting. The previous benchmark assessment for scup was completed in 2008 as part of the Data-Poor Stocks Working Group (DPSWG 2009). In 2012, the SSC reviewed an update to this assessment, which included data through 2011. The SSC considered the assessment to be a level 3 assessment. The SSC considered the following to be the most significant sources of uncertainty in the assessment:



- While older age scup (age 3+) were represented in the catch used in the assessment model, most indices used in the model did not include ages 3+. As a result, the dynamics of the older ages of scup were driven principally by catches and inferences regarding year class strength;
- There was uncertainty in the estimate of natural mortality used in the assessment;
- Uncertainties in the estimates of both the stock's biomass and the biological reference point proxy used for F_{MSY} resulted in uncertainty in the stock status;
- The SSC assumed that OFL has a lognormal distribution with a CV of 100%, based on a metaanalysis of survey and SCA accuracies;
- Recruitment appeared to be high in recent years, but it was unclear how these recent high levels would compare to historical levels of recruitment;
- Survey indices were particularly sensitive to scup availability, which resulted in high interannual variability;
- Uncertainties resulting from the application of trawl calibration coefficients (ALBATROSS IV vs BIGELOW) and their influence on the selectivity pattern and results of the assessment; and
- The projection on which the ABC was determined was based on an assumption that the quota would be landed in 2012, 2013, and 2014.

Biological Reference Points

The most recent benchmark assessment for scup was peer-reviewed and accepted in June 2015 as part of the 60th Stock Assessment Workshop (SAW) and Stock Assessment Review Committee (SARC). Reports for this and previous stock assessments can be found at: <u>www.nefsc.noaa.gov/saw/</u>.

Biological reference points estimated by the 2015 benchmark scup stock assessment include:

- A biomass reference point of SSB $_{MSY proxy} = SSB_{40\%} = 192.47$ million pounds (87,302 mt)
- A minimum biomass threshold of $\frac{1}{2}$ SSB _{MSY proxy} = $\frac{1}{2}$ SSB_{40%} = 96.23 million pounds (43,651 mt)
- A fishing mortality reference point of $F_{MSY proxy} = F_{40\%} = 0.220$.

Stock Status and Projections

The scup stock was not overfished and overfishing was not occurring in 2014 relative to the biological reference points from the 2015 benchmark stock assessment. Spawning stock biomass (SSB) was estimated to be 403.26 million pounds (182,915 mt) in 2014, about 2 times the new biomass reference point (SSB_{MSY proxy} = SSB_{40%} = 192.47 million pounds = 87,302 mt). Fishing mortality on the fully selected age 3 fish was 0.127 in 2014, below the new fishing mortality reference point (F_{MSY proxy} = F_{40%} = 0.220). The average recruitment from 1984 to 2014 was 109 million age 0 scup. The 2014 year class is estimated to be about 112 million fish.

The 2015 benchmark scup stock assessment included OFL projections for 2015-2018 using two different 2015 harvest assumptions: one assuming that 75% of the 2015 ABC would be harvested, and one assuming that 100% of the 2015 ABC would be harvested. These projections assume that fishing mortality rates in 2016-2018 will be at F_{MSY} (F=0.220). Staff recommend that the SSC use the projections that assume 75% of the 2015 ABC will be harvested as this is reflective of recent fishery performance.



ABC Recommendations for 2016-2018

<u>Staff recommend that three year specifications be set for scup, for the 2016 through 2018 fishing years.</u> In 2012 the Council and Board set multi-year specifications for scup for 2013-2015. A review of implemented specifications in the interim years (2013 and 2014) indicated that no changes to the measures were warranted. These multi-year specifications resulted in increased predictability in management for fishermen, as well as administrative time savings that allowed the Council and Board to focus efforts on other management priorities.

Since the implementation of the Council's Omnibus ACLs and AMs Amendment (Amendment 15 to the Summer Flounder, Scup, and Black Sea Bass FMP) in 2012, the SSC has calculated ABCs for scup using the Council's risk policy for a level 3 stock assessment³ and a species with a typical life history. The lead stock assessment scientist for scup used this same approach to derive ABC projections for 2016-2018. These projections were calculated under two different 2015 harvest assumptions (one assuming that 75% of the 2015 ABC is taken, and the other assuming that 100% of the 2015 ABC is taken) and three different assumptions for the OFL CV (100%, 60%, and 30%). Each approach assumes that the full ABC will be caught in 2016 and 2017. The SSB in each year is updated based on the presumed catch in the previous year.

<u>Staff recommend that the SSC use the ABC projections that assume 75% of the ABC is taken in 2015 and that use an OFL CV of 30%</u>, consistent with the recommendation of the SAW/SARC. The resulting ABC projections are shown in Table 3.

Table 3: ABC total catch, landings, discards, fishing mortality (F) and Spawning Stock Biomass (SSB) based on projections from the 2015 benchmark scup stock assessment (Terceiro 2015).

Year	ABC Total Catch (mil lb)	ABC Total Catch (mt)	Landings (mil lb)	Landings (mt)	Discards (mil lb)	Discards (mt)	F	P* Value	SSB (mill b)	SSB (mt)
2015	25.33	11,490	22.17	10,058	3.16	1,432	0.143	n/a	413.32	187,477
2016	33.23	15,074	28.37	12,870	4.86	2,204	0.203	0.4	375.84	170,479
2017	30.09	13,648	25.30	11,474	4.79	2,174	0.203	0.4	343.20	155,674
2018	28.05	12,725	23.36	10,594	4.70	2,131	0.203	0.4	316.54	143,578

Other Management Measures

Recreational and Commercial Annual Catch Limits

The acceptable biological catch (ABC) is divided into a commercial Annual Catch Limit (ACL) and a recreational ACL (Figure 1). As specified in the Summer Flounder, Scup, and Black Sea Bass FMP, the commercial scup ACL is 78% of the ABC and the recreational ACL is 22% of the ABC. The ACLs include both landings and discards. Based on the ABC recommendations described above, staff recommend commercial ACLs of 25.92 million pounds (11,758 mt) for 2016, 23.47 million pounds (10,645 mt) for 2017, and 21.88 million pounds (9,926 mt) for 2018. Staff recommend recreational ACLs

³ In March 2015 the SSC changed the name of the level 3 category to "SSC-modified OFL probability distribution".



of 7.31 million pounds (3,316 mt) for 2016, 6.62 million pounds (3,003 mt) for 2017, and 6.17 million pounds (2,800 mt) for 2018 (Table 1).

Annual Catch Targets

The Monitoring Committee is responsible for recommending Annual Catch Targets (ACTs) for the Council and Board's consideration. The ACTs may either be equal to the ACLs or reduced from the ACLs to account for management uncertainty. The Monitoring Committee should consider all relevant sources of management uncertainty in the scup fishery and provide the technical basis for any reduction in catch when recommending an ACT. Management uncertainty includes 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 the catch (e.g. due to late reporting, under-reporting, and/or misreporting of landings or bycatch) or due to a lack of management precision (i.e. the ability to constrain catch to desired levels).

The 2015 benchmark stock assessment indicates that scup SSB is currently about twice SSB_{MSY} . The commercial and recreational scup fisheries have not harvested their full quotas/harvest limits for the past four years (Table 4). For these reasons, staff recommend that the ACTs be set equal to the ACLs for 2016-2018.

Year	Commercial Landings (mil lb)	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	8.20	8.37	-2%	2.94	2.59	+14%
2010	10.73	10.68	0%	5.74	3.01	+91%
2011	15.03	20.36	-26%	3.66	5.74	-36%
2012	14.88	27.91	-47%	4.17	8.45	-51%
2013	17.88	23.53	-24%	5.34	7.55	-29%
2014	15.93	21.95	-27%	4.68^{a}	7.03	-37%
Average	13.78	18.80	-21%	4.35	5.73	-8%

Table 4: Scup commercial and recreational fishery performance relative to quotas and harvest limits, 2009-2014.

^a MRIP estimate as of July 8, 2015.



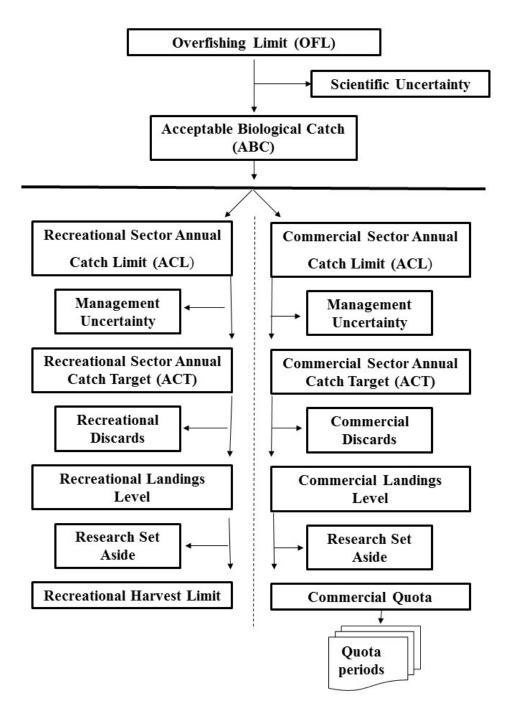


Figure 1: Illustration of how scup catch and landings limits are determined from the overfishing limit. The Research Set Aside (RSA) program was suspended in 2014; therefore, 2016 quotas will not account for a RSA deduction.



Commercial Quotas and Recreational Harvest Limit

Commercial quotas and recreational harvest limits for scup are determined by subtracting projected discards from the sector-specific ACTs. Projected discards from the stock assessment are apportioned between the recreational and commercial fisheries using the average percentage of dead discards attributable to each sector over the past three years. According to the 2015 benchmark stock assessment, commercial dead discards accounted for an average of 83.4% of all dead discards from 2012 through 2014. Recreational dead discards accounted for an average of 16.6% of all dead discards from 2012 through 2014. Based on the ABC and ACT recommendations above, after subtracting sector-specific projected discards, staff recommend a commercial quota of 21.87 million pounds (9,919 mt) in 2016, and a recreational harvest limit of 6.51 million pounds (2,951 mt) in 2016. Staff recommend a 2017 commercial quota of 19.47 million pounds (8,831 mt) and a 2017 recreational harvest limit of 5.83 million pounds (2,643 mt). Staff recommend a 2018 commercial quota of 17.96 million pounds (8,147 mt) and a 2018 recreational harvest limit of 5.39 million pounds (2,447 mt; Table 1).

In previous years, the Council has allowed for a reduction of up to 3% from the commercial and recreational landings levels for the Research Set Aside (RSA) program (Figure 1). The Council suspended the RSA program in 2014, thus staff recommend no RSA reductions in the commercial quota or recreational harvest limit for 2016-2018.

As prescribed by the FMP, the commercial scup quota is divided into three periods: Winter I (January-April; allocated 45.11% of the commercial quota), Summer (May-October; allocated 38.95% of the commercial quota), and Winter II (November-December; allocated 15.94% of the commercial quota). Based on the staff recommendations described above, the 2016 Winter I quota would be 9.86 million pounds (4,474 mt), the 2016 Summer quota would be 8.52 million pounds (3,863 mt), and the 2016 Winter II quota would be 3.49 million pounds (1,581 mt). The 2017 commercial quotas would be 8.78 million pounds (3,984 mt) for Winter I, 7.58 million pounds (3,440 mt) for Summer, and 3.10 million pounds (1,408 mt) for Winter II. The 2018 commercial quotas would be 8.10 million pounds (3,675 mt) for Winter I, 7.00 million pounds (3,173 mt) for Summer, and 2.86 million pounds (1,299 mt) for Winter II.

Commercial Possession Limits

The Council and Board use commercial scup possession limits to help constrain landings to the seasonal quotas. The Winter I possession limit has been 50,000 pounds since 2012. After 80% of the Winter I quota is landed, the possession limit drops to 1,000 pounds. Prior to 2012, the Winter I possession limit was 30,000 pounds. The Winter II possession limit has been 12,000 pounds since 2014. Prior to 2014, the Winter II possession limit was 2,000 pounds. The Winter II possession limit is an initial possession limit. If the Winter I quota is not fully harvested, the Winter II possession limit increases by 1,500 pounds for every 500,000 pounds of scup not caught during the Winter I period.

Table 5 shows a summary of the number of trips landing more than 20, 30, 40 or 50 thousand pounds of scup at a time during the Winter I periods from 2011 through 2014. This summary was calculated based on dealer data and shows that between 5 and 13 trips landed more than 30,000 pounds of scup at a time from 2011 through 2014, and that 3 or fewer trips landed 40,000 pounds or more of scup. This table was presented at the Advisory Panel meeting in June 2015. A few scup advisors thought this table was inaccurate, potentially because of the reliance on dealer data to perform the analysis. These advisors said



that commercial fishermen occasionally catch high volumes of scup and divide the catch among multiple dealers, which may have resulted in errors in the analysis of dealer data. These advisors said it is not difficult to catch the full 50,000 pound Winter I trip limit. They expressed appreciation for the recent increases in both the Winter I and Winter II trip limits, saying that although scup are a low-value species, with high trip limits and high scup abundances, fishermen can catch enough scup to make a profit, or at least cover their trip expenses. This is especially helpful during times when other fisheries are not very profitable (see the 2015 Fishery Performance Report for more insights from advisors).

Table 5: The total number of scup trips during Winter I period from 2011 through 2014, and the number of trips landing greater than 20, 30, 40, and 50 thousand pounds of scup, as shown in NMFS dealer data. C= confidential.

Year	Total Winter I trips	Number of trips landing more than:						
		20,000 lb	30,000 lb	40,000 lb	50,000 lb			
2011	3,342	17	0	0	0			
2012	4,753	19	5	С	0			
2013	3,749	36	11	С	0			
2014	3,377	29	13	3	0			

Staff recommend that a thorough review of the Winter I and Winter II scup possession limits be conducted for consideration by the Council and Board at the December 2015 meeting. Pending such analysis, staff do not recommend any changes to the Winter I and Winter II possession limits at this time.

Commercial Minimum Fish Size and Trawl Mesh Size

The Council and Board have not modified the commercial minimum scup size of 9 inches total length (TL) since scup was first managed by the Council through the 1996 amendment that added scup to the Summer Flounder FMP. In 2005, and again in 2012, the Council and Board considered reducing the minimum size to 8 inches TL based on suggestions from commercial fishermen. In 2005, and again in 2012, Council staff presented a memo with data from O'Brien et al. 1993, showing that approximately 90.6% of scup are mature by 8 inches TL and approximately 98.5% of scup are mature by 9 inches TL (Coakley 2005). In 2012 the Monitoring Committee concluded that, assuming gear requirements remain constant, a reduction to 8 inches TL would not likely have a considerable impact on stock status and spawning capacity given that many 8-inch fish are already selected into the fishery as discards, and commercial discard mortality is assumed to be 100% for the trawl fishery. The Monitoring Committee did, however, express concern about the possibility of increased targeting of smaller scup and the lack of discard data from pot and trap commercial scup fisheries.⁴ For these reasons, the Council and Board decided in 2012 to maintain the 9 inch TL minimum fish size.

At the June 2015 Summer Flounder, Scup, and Black Sea Bass AP meeting, one advisor stated that the minimum scup size of 9 inches TL is redundant with the requirement that otter trawls targeting scup

⁴ About 1.3% of the total commercial scup catch in 2014 was caught with pots and traps.



have a minimum mesh size of 5 inches diamond mesh. This minimum mesh size was chosen by the Council and Board because it mostly captures scup that are about 9 inches in length or greater (Coakley 2005). This advisor thought the minimum fish size in the commercial fishery should be eliminated to allow fishermen to turn discards into landings and reduce overall mortality on scup. A few advisors said there is little market demand for smaller scup so fishermen will continue to target larger scup even if the minimum size were reduced or eliminated.

The 5 inch minimum mesh size is required for trawl vessels that catch more than 500 pounds of scup from November 1 through April 30 and more than 200 pounds of scup from May 1 through October 31.

Given that the Council and Board have not modified these measures since 2004 and the scup population has changed dramatically (i.e. abundance has increased as well as the numbers of larger, older fish) over the past ten years, staff recommend that a thorough review of these commercial management measures be conducted. The Council and the Board could consider the review at the December 2015 meeting.

Commercial Pots and Traps Escape Vents

NMFS Vessel Trip Report data show that about 1.3% of the 2014 commercial scup catch was taken with pots and traps. 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.

Staff recommend that a thorough review of escape vent sizes for pots and traps used in the commercial scup fishery be conducted for consideration by the Council and the Board at the December 2015 meeting. Pending such analysis, staff do not recommend any changes to vent size requirements at this time.

Recreational seasons, possession limits, and minimum size

The Council and Board will set a recreational harvest limit for 2016 (and possibly 2017 and 2018) at their joint August 2015 meeting. The Council and Board will determine other recreational measures for 2016, such as any necessary changes to the recreational scup season, possession limits, and minimum fish sizes in December 2015. Data from the first four "waves" (i.e. the two-month reporting increments for recreational data) of 2015 recreational landings will be available in October 2015. The Monitoring Committee will meet in November to review these landings data and make recommendations for any necessary changes in recreational management measures.



References

Coakley, J. 2005. Scup minimum fish and mesh size – commercial. Memorandum. Mid-Atlantic Fishery Management Council. 6 pp. Available in <u>August 2012 Council meeting briefing materials</u>, Tab 7, page 11.

DPSWG (Data-Poor Stocks Working Group). 2009. The Northeast data poor stocks working group report, December 8-12, 2008 meeting: Part A. Skate species complex, deep sea red crab, Atlantic wolfish, scup, and black sea bass. Part B. Weakfish. <u>Northeast Fisheries Science Center Reference Document 09-02</u>. 496 pp.

O'Brien, L., J. Burnett, and R. K. Mayo. 1993. Maturation of nineteen species of finfish off the Northeast coat of the United States, 1985-1990. <u>NOAA Technical Report NMFS 113</u>. 32 pp.

Terceiro, M. 2015. 60th Northeast Regional Stock Assessment Workshop assessment summary report, prepublication draft.