



Mid-Atlantic Fishery Management Council

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MEMORANDUM

Date: November 2, 2016
To: Chris Moore, Executive Director
From: Julia Beaty and Kiley Dancy, Staff
Subject: Scup Recreational Management Measures for 2017

Introduction

In August 2015, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) recommended commercial quotas and recreational harvest limits (RHLs) for scup for the 2016-2018 fishing years, based on the advice of the Scientific and Statistical Committee (SSC) and Monitoring Committee. These measures have been implemented and include a 2017 scup RHL of 5.50 million pounds. The SSC, Monitoring Committee, Council, and Board reviewed these measures in the summer of 2016 and recommended no changes.

The Monitoring Committee must recommend recreational management measures for 2017 that will constrain landings to the 2017 RHL. This document summarizes recreational catch and landings data to support the Monitoring Committee's deliberations.

Recreational landings in 2016 are projected exceed the 2016 RHL. A comparison of 2016 projected landings to the 2017 RHL indicate that a reduction of about 29% is necessary to prevent an overage of the 2017 RHL. Council staff recommend that this reduction be implemented in both state and federal waters. To achieve this reduction in federal waters, staff recommend that the recreational bag limit in federal be reduced from 50 to 20 fish.

Recreational Catch and Landings

Since 1981, recreational scup catch fluctuated from a peak of 30.87 million fish in 1986 to a low of 2.67 million fish in 1998. Landings fluctuated from a high of 11.61 million pounds in 1986 to a low of 0.87 million pounds in 1998 (Table 1).

In 2015, recreational landings were about 4.05 million fish and 4.62 million pounds, approximately 32% below the 2015 RHL of 6.80 million pounds. Approximately 8.39 million scup were caught, with a release rate of 52% (Table 1).

Recreational catch and landings data through the Marine Recreational Information Program (MRIP) for

2016 are currently incomplete and preliminary. To date, only the first four waves (January - August) of catch and landings data are available for 2016. The Council and Commission agreed that management recommendations must be made late in the current year to give the states enough time to enact changes to their regulations for the upcoming year; therefore, the Monitoring Committee reviews MRIP data and develops their recommendations once preliminary wave 4 data are available.

Preliminary data indicate that 9.34 million scup were caught and 3.32 million scup were landed through wave 4 in 2016. Landings through wave 4 totaled 4.01 million pounds, with a mean weight of landed scup of approximately 1.21 pounds. Landings during waves 1-4 in 2016 were about 53% higher than wave 1-4 landings in 2015 (about 2.63 million pounds; Table 2). Wave 1-4 landings increased between 2015 and 2016 in Massachusetts (39% increase), Rhode Island (13% increase), Connecticut (137% increase), New York (63% increase), New Jersey (1,290% increase, though landings were still low relative to other states), and Virginia (405,557% increase, though landings were still low relative to other states; Table 3).

This increase in landings between 2015 and 2016 could be the result of increased scup abundance. It may also be the result of changes in angler behavior. A 2015 benchmark stock assessment indicated that scup recruitment (i.e. the number of age 0 scup) was slightly above average in 2014 (though it was below average in 2012 and 2013).¹ A 2016 data update showed evidence of a strong 2015 year class.² Scup reach the minimum size for retention in the federal waters recreational fishery (9 inches TL) when they are two or three years old;³ therefore, the 2015 year class would not have contributed to the high 2015 recreational landings. It could, however, contribute to high landings in 2017. The length distributions of landed scup in 2014 and 2015 are shown in Figure 1.

Preliminary wave 1-4 data for 2016 were used to project catch and landings for the entire year by assuming the same proportion of catch and landings by wave in the previous year. There were no changes to the state or federal recreational measures for scup between 2015 and 2016; therefore, any changes in the proportion of catch by wave between 2015 and 2016 would be the result of factors other than regulations. Projections for the states of Maryland, Delaware, Virginia, and North Carolina were adjusted because projections using the proportion of landings by wave in 2015 produced unreasonable estimates. Specifically, Maryland, Delaware, and North Carolina had no estimated recreational landings during waves 1-4 in 2016, which produced an estimate of no scup landings in 2016. These projections were thus replaced with the average wave 5 and 6 landings during 2013-2015 (Table 4).

Projections for Virginia's total 2016 landings were calculated using 2013-2015 average proportion of landings by wave, rather than using only the 2015 proportions. When only 2015 proportions were used for Virginia, it produced an extremely unlikely estimate of about 7.5 million pounds of recreational landings in the state of Virginia alone in 2016. This was due to the extremely large increase in Virginia's wave 1-4 landings between 2015 and 2016 (Table 3) and due to the fact that 99.6% of Virginia's scup

¹ Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment Workshop (60th SAW) Assessment Report. U.S. Department of Commerce, Northeast Fisheries Science Center Reference Document 15-08. Available at: <http://www.nefsc.noaa.gov/saw/>

² Northeast Fisheries Science Center. 2016. Scup Data Update for 2016. Available at: <http://www.mafmc.org/ssc-meetings/2016/july-20-21>

³ Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment Workshop (60th SAW) Assessment Report. U.S. Department of Commerce, Northeast Fisheries Science Center Reference Document 15-08. Available at: <http://www.nefsc.noaa.gov/saw/>

landings in 2015 occurred in wave 5. Using average 2013-2015 proportions by wave produced a much more reasonable 2016 estimate of 56,577 pounds (Table 4).

Although New Jersey also saw a large increase in wave 1-4 landings between 2014 and 2015, those projections were not adjusted because the increase was not beyond the scale of what has occurred in the past. Specifically, landings in New Jersey exceeded the 2016 projected amount (i.e. 394,998 pounds) in 1994 and 2010. The proportion of New Jersey's scup landings during waves 5-6 remained generally stable for the past 5 years, with wave 5-6 landings contributing to 90-100% of annual landings during 2011 and 2013-2015 and about 25% of annual landings in 2012.

Using the methodology described above, 2016 recreational scup landings from Maine through North Carolina were projected to be about 7.70 million pounds, which is about 26% higher than the 2016 RHL. If wave 5-6 landings occur as projected, then 2016 will be the first year that the recreational fishery has exceeded the RHL since 2010 (Table 5).

Using this same methodology, landings in numbers of fish are expected to be 6.72 million scup in 2016. The Commission sets a target of the states of Massachusetts, Rhode Island, Connecticut, and New York landing the number of scup which are equivalent to 97% of the RHL. This target is projected to be exceeded by about 13% (Table 6).

During 2007-2016 (through wave 4) about 2% of scup landings (in numbers) were harvested from federal waters (> 3 miles at sea), while the remaining 98% came from state waters (Table 7). Most scup landings originated in state waters from Massachusetts through New York. Scup landings in Delaware, Maryland, and North Carolina mostly originated in federal waters (Table 8); however, landings in those states were very low (Table 2). There is some uncertainty associated with data on fishing areas because this information is self-reported by anglers.

During waves 1-4 in 2016, anglers took an estimated 635,831 trips in which scup was the primary target species. This is 38% greater than the number of directed scup trips during all of 2015 (Table 5).

Past Harvest Limits and Management Measures

Scup RHLs were first implemented in 1996. Since then the RHL varied from a low of 1.24 million pounds in 1999 and 2000 to a high of 8.45 million pounds in 2012. The 2017 RHL is 5.50 million pounds (Table 9).

Until 2002, the recreational scup fishery was managed with coastwide measures as dictated by the FMP. These measures included a common minimum fish size, possession limit, and an open season that were implemented in both state and federal waters. In 2003, the Commission developed an addendum which created RHLs for state waters and allocated 97% of the coastwide RHL to the states of Massachusetts through New York. State waters measures have grown increasingly complex, with variable possession limits and minimum sizes by fishing mode (i.e., for-hire vs. private angler) and by season (Table 10).

For 2016, the Council and Board adopted federal management measures that include a 50 fish possession limit, a 9-inch total length (TL) size limit, and an open season from January 1 through December 31. These are identical to the 2015 federal regulations (Table 9). The Commission continued the regional approach to scup management in state waters. All state regulations remained *status quo* between 2015 and 2016 (Table 10).

Accountability Measures

In 2013, the Council modified the recreational accountability measures (AMs) for Mid-Atlantic species through the Omnibus Recreational AM Amendment. This amendment removed the in-season closure authority for the scup recreational fishery that was previously held by the NMFS Regional Administrator. Additionally, in the event of an Annual Catch Limit (ACL) overage, recreational AMs will no longer necessarily include a direct pound-for-pound payback of the overage amount in a subsequent fishing year. Instead, AMs are now tied to stock status. Though paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below.

The modified recreational AMs are as follows: the 3-year recreational sector ACL is evaluated against a 3-year moving average of total catch. Both landings and dead discards are evaluated in determining if the 3-year average recreational sector ACL has been exceeded. If the recreational ACL is exceeded, the appropriate AM will be determined based on the following criteria:

1. If the stock is overfished ($B < \frac{1}{2} B_{MSY}$), under a rebuilding plan, or the stock status is unknown: The exact amount, in pounds, by which the most recent year's recreational ACL has been exceeded, will be deducted in the following fishing year, or as soon as possible once catch data are available.
2. If biomass is above the threshold, but below the target ($\frac{1}{2} B_{MSY} < B < B_{MSY}$), and the stock is not under a rebuilding plan:
 - a. If only the recreational ACL has been exceeded, then adjustments to the recreational management measures (bag, size, and seasonal limits) will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measure and conditions that precipitated the overage.
 - b. If the Acceptable Biological Catch ($ABC = \text{recreational ACL} + \text{commercial ACL}$) is exceeded in addition to the recreational ACL, then a single year deduction will be made as a payback, scaled based on stock biomass. The calculation for the payback amount in this case is: $(\text{overage amount}) * (B_{msy} - B) / \frac{1}{2} B_{msy}$.
3. If biomass is above the target ($B > B_{MSY}$): Adjustments to the recreational management measures (bag, size, and seasonal limits) will be made in the following year, or as soon as possible once catch data are available. These adjustments will take into account the performance of the measure and conditions that precipitated the overage.

AMs have not been triggered for the recreational scup fishery based on a comparison of average 2013-2015 catch to the 2013-2015 average ACL. Recreational performance for 2016 will be evaluated in 2017, once final catch estimates are available, and will be taken into account in next year's recreational specifications process if necessary.

Monitoring Committee Responsibility

The Monitoring Committee must consider and recommend management measures to ensure that landings in 2017 will not exceed the RHL. Recreational possession limits, minimum fish size limits, and recreational seasons can all be modified to achieve this goal.

Landings in 2016 are used as a proxy for landings in 2017 when considering such measures. Based on the projected 2016 landings estimate of 7.70 million pounds, landings must be reduced in 2017 to achieve the 2017 RHL of 5.50 million pounds. 2016 landings must be reduced by 2.2 million pounds, or about 29%, to achieve, but not exceed the 2017 RHL.

Fishing Trips and Year Class Effects

Table 5 shows the number of trips in which anglers targeted scup over the past 20 years. Predicting the number of trips that might be taken in 2017 is complicated. Changes in fishing site characteristics (travel costs, catch rates, available species, water quality, etc.), fishery management policies (possession limits, size restrictions, closed seasons), and angler demographics affect the demand for angler fishing trips. This makes evaluation of changes in angler behavior difficult and complex. Changes in angler behavior may result in a violation of the assumptions associated with specific sets of regulations and their anticipated results.

Additionally, year-class effects should be considered relative to fish availability and recreational catches. For example, the recent benchmark stock assessment for scup states that recruitment (i.e., number of age 0 fish) in 2014 was slightly above average, but was below average in 2012 and 2013. Scup reach the minimum size for retention in the recreational fishery (9 inches TL) when they are about two or three years old.⁴ When higher than average year classes become available to the recreational fishery, they may result in increased catches. Lower than average year classes could result in decreased catches. There are many factors that influence both availability and catch. Multiple indices of recruitment, including the Northeast Fisheries Science Center's (NEFSC's) trawl survey and state trawl surveys in Rhode Island and New York, showed evidence of a strong year class in 2015, which could lead to increased availability of scup to recreational anglers in 2017.

Staff Recommendation

Projected landings in 2016 must be reduced by 29% to achieve, but not exceed, the 2017 RHL. Council staff recommend that this reduction be achieved through a decrease in the federal waters recreational possession limit from 50 to 20 scup. This recommendation is based on the number of scup per trip using 2011 MRFSS data for waves 1-4. Due to changes in estimation between MRFSS and MRIP, staff were not able to use more recent catch per trip data to develop this recommendation.

Given the Board's typical approval of regional management for scup and given that 98% of scup landings originate in state waters (Table 7), staff recommend that the states implement measures to reduce landings in 2017. Staff recommend that the same 29% reduction apply in state and federal waters, and in all states, rather than applying differing levels of the reduction in different states.

⁴ Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment Workshop (60th SAW) Assessment Report. U.S. Department of Commerce, Northeast Fisheries Science Center Reference Document 15-08. Available at: <http://www.nefsc.noaa.gov/saw/>

Table 1: Recreational scup catch and landings by year, Maine through North Carolina, 1981-2016.^a

Year	Catch (millions of fish)	Landings (millions of fish)	Landings (millions of pounds)	% Released	Avg. weight of landed fish (pounds)
1981	10.38	9.08	5.81	12%	0.64
1982	7.18	6.45	5.20	10%	0.81
1983	10.16	8.84	6.25	13%	0.71
1984	7.77	6.06	2.42	22%	0.40
1985	13.86	10.81	6.09	22%	0.56
1986	30.87	24.82	11.60	20%	0.47
1987	12.38	9.92	6.20	20%	0.62
1988	7.54	6.06	4.27	20%	0.70
1989	11.39	9.18	5.56	19%	0.61
1990	10.17	8.04	4.14	21%	0.51
1991	16.85	13.28	8.09	21%	0.61
1992	10.08	7.76	4.41	23%	0.57
1993	7.08	5.66	3.20	20%	0.56
1994	5.65	4.27	2.63	24%	0.62
1995	3.77	2.42	1.34	36%	0.56
1996	4.68	2.97	2.16	36%	0.73
1997	3.07	1.92	1.20	38%	0.62
1998	2.67	1.21	0.87	55%	0.72
1999	4.64	3.25	1.89	30%	0.58
2000	11.28	7.24	5.44	36%	0.75
2001	9.93	5.10	4.26	49%	0.84
2002	7.58	3.65	3.62	52%	0.99
2003	14.66	9.45	8.48	36%	0.90
2004	13.43	7.15	7.28	47%	1.02
2005	7.04	2.59	2.69	63%	1.04
2006	9.61	3.43	3.72	64%	1.08
2007	10.05	4.75	4.56	53%	0.96
2008	10.71	3.49	3.79	67%	1.09
2009	8.70	3.13	3.23	64%	1.03
2010	11.15	5.15	5.97	54%	1.16
2011	6.47	3.06	3.67	53%	1.20
2012	8.83	3.67	4.17	58%	1.14
2013	10.02	4.98	5.44	50%	1.09
2014	8.99	4.13	4.74	54%	1.15
2015	8.39	4.05	4.62	52%	1.14
2016 ^b	9.34	6.72	7.70	28%	1.14

^a Source: personal communication with the NMFS Fisheries Statistics Division, October 19, 2016.

^b 2016 catch and landings are projected using proportion by wave from 2015 data and 2016 wave 1-4 data (Source: personal communication with NMFS Fisheries Statistics Division, October 19, 2016).

Table 2: Recreational scup catch and landings, waves 1-4 (Jan.-Aug.), Maine through North Carolina.^a

Year	Catch (millions of fish)	Landings (millions of fish)	Landings (millions of pounds)	Avg. weight of landed fish (pounds)
1981	5.71	4.60	2.52	0.55
1982	5.30	4.91	4.17	0.85
1983	5.60	4.75	3.33	0.70
1984	6.73	5.23	1.78	0.34
1985	5.48	4.43	3.09	0.70
1986	16.85	13.94	5.91	0.42
1987	9.19	7.40	4.78	0.65
1988	4.27	3.35	2.25	0.67
1989	6.33	5.21	3.41	0.65
1990	6.31	5.00	2.34	0.47
1991	10.22	8.09	4.77	0.59
1992	5.50	4.29	2.51	0.58
1993	3.98	3.23	1.66	0.51
1994	2.62	2.08	1.19	0.57
1995	1.33	0.87	0.50	0.58
1996	2.61	1.56	1.16	0.75
1997	1.70	1.07	0.77	0.72
1998	1.71	0.77	0.59	0.77
1999	2.52	1.75	0.96	0.55
2000	5.73	3.99	2.99	0.75
2001	6.28	3.12	2.42	0.78
2002	4.02	1.79	1.56	0.87
2003	9.00	5.96	5.67	0.95
2004	8.35	4.74	4.64	0.98
2005	2.77	1.31	1.46	1.11
2006	5.12	2.17	2.22	1.03
2007	5.15	2.90	2.53	0.87
2008	6.52	2.12	2.24	1.06
2009	6.72	2.47	2.52	1.02
2010	7.86	3.79	4.48	1.18
2011	3.94	1.78	2.09	1.18
2012	6.63	2.79	3.10	1.11
2013	6.65	3.48	3.72	1.07
2014	5.37	2.79	3.43	1.23
2015	4.38	2.33	2.63	1.13
2016	9.34 ^b	3.32 ^b	4.01 ^b	1.21

^a Source: personal communication with NMFS Fisheries Statistics Division, October 19, 2016.

^b Preliminary estimates

Table 3: Recreational scup landings (in pounds) by state, waves 1-4, 2007-2016.^a

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
ME	0	0	0	0	0	0	0	0	0	0
NH	0	0	0	0	0	0	0	0	0	0
MA	1,342,123	686,592	797,059	869,914	719,734	1,751,880	1,878,260	1,530,016	1,035,886	1,436,206
RI	136,099	441,663	75,473	245,273	262,075	200,950	546,791	751,875	506,801	574,348
CT	384,381	298,314	326,330	880,253	790,339	530,376	427,283	263,195	226,044	535,889
NY	637,899	798,533	1,299,362	2,103,610	320,151	533,165	865,325	889,018	856,359	1,398,169
NJ	24,238	8,844	21,902	370,263	530	84,932	767	0	3,007	40,263
DE	479	441	232	0	35	16	0	28	0	0
MD	200	69	0	0	0	0	0	0	0	0
VA	344	1,037	14	4,995	776	0	2,471	0	7	28,396
NC	0	0	0	1,386	260	970	339	388	84	0
Total	2,525,763	2,235,493	2,520,372	4,475,694	2,093,900	3,102,289	3,721,236	3,434,520	2,628,188	4,013,271

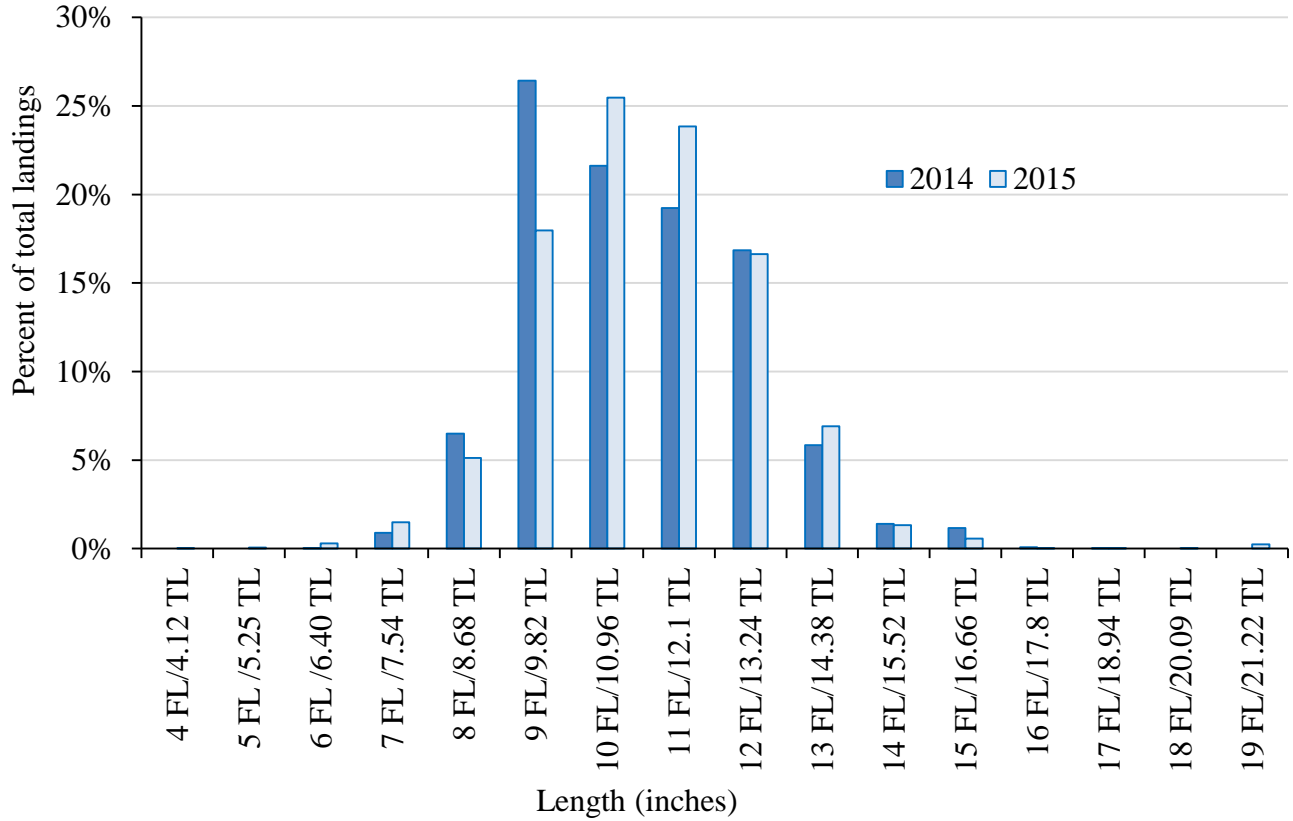


Figure 1: Expanded length frequencies of landed scup in 2014 and 2015 from Maine through North Carolina, as a percent of total recreational landings of scup.

Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

Fork length to total length conversion based on Hamer 1979 ($TL = 1.14*FL - 0.44$).⁵

⁵ Hamer, P.E. 1979. Studies of the scup, *Stenotomus chrysops*, in the Middle Atlantic Bight. New Jersey Division of Fish, Game and Shellfish, Misc. Rep. No. 18M, 67 p.

Table 4: 2016 projected landings by state (in pounds) and values used to calculate projections.

State	2015 Wave 5-6 Landings (pounds)	2015 Wave 5-6 Landings (% of annual)	2013-2015 Wave 5-6 Avg. Landings (pounds)	2013-2015 Wave 5-6 Landings (% of annual)	2016 Wave 1-4 Landings (pounds)	2016 Projected Annual Landings (pounds)	% of Projected 2016 Total Landings
ME	0	--	0	--	0	0	0.0%
NH	0	--	0	--	0	0	0.0%
MA	1,035,886	19.5%	242,275	14.8%	1,436,206	1,783,722 ^a	23.2%
RI	506,801	14.3%	234,925	26.6%	574,348	670,558 ^a	8.7%
CT	226,044	54.6%	432,358	57.4%	535,889	1,179,421 ^a	15.3%
NY	856,359	61.3%	703,962	40.5%	1,398,169	3,611,037 ^a	46.9%
NJ	3,007	89.8%	57,886	96.3%	40,263	394,998 ^a	5.1%
DE	0	100.0%	196	50.0%	0	196 ^b	0.0%
MD	0	100.0%	68	100.0%	0	68 ^b	0.0%
VA	7	99.6%	613	33.2%	28,396	56,577 ^c	0.7%
NC	84	4.5%	141	25.7%	0	0 ^a	0.0%
Total	2,628,188		1,672,424		4,013,271	7,696,719	

^a Calculated using 2016 wave 1-4 landings and the proportion of annual landings during waves 5-6 in 2015.

^b Average wave 5-6 landings, 2013-2015

^c Calculated using 2016 wave 1-4 landings and the average proportion of annual landings during waves 5-6 in 2013-2015.

Table 5: Number of scup recreational fishing trips, harvest limit, recreational landings, and fishery performance (i.e. RHL overage or underage) from Maine through North Carolina, 1997 to 2016.

Year	Number of Directed Fishing Trips^a	Directed Scup Trips As % Of All Trips^{a,b}	RHL (millions of pounds)^c	Landings (millions of pounds)^d	% RHL Overage (+)/ Underage (-)
1997	194,640	0.65%	1.95	1.20	-38%
1998	204,703	0.80%	1.55	0.87	-44%
1999	220,909	0.88%	1.24	1.89	+52%
2000	452,099	1.30%	1.24	5.44	+339%
2001	459,813	1.25%	1.77	4.26	+141%
2002	471,340	1.53%	2.71	3.62	+34%
2003	934,956	2.66%	4.01	8.48	+111%
2004	710,221	2.08%	4.01	7.28	+82%
2005	550,964	1.51%	3.96	2.69	-32%
2006	554,594	1.51%	4.15	3.72	-10%
2007	516,752	1.37%	2.74	4.56	+66%
2008	536,307	1.46%	1.83	3.79	+107%
2009	538,084	1.83%	2.59	3.23	+25%
2010	699,516	2.37%	3.01	5.97	+98%
2011	477,275	1.78%	5.74	3.67	-36%
2012	603,126	2.33%	8.45	4.17	-51%
2013	532,439	2.09%	7.55	5.44	-28%
2014	418,687	1.61%	7.03	4.74	-33%
2015	461,840	2.09%	6.80	4.62	-32%
2016	635,831 ^e	3.76% ^e	6.09	7.70 ^f	+26% ^f

^a Estimated number of recreational fishing trips (expanded) where the primary target species was scup, Maine through North Carolina. Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

^b Source of total trips for all species combined: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

^c RHLs for 2002 through 2014 are adjusted for research set-aside.

^d Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

^e Preliminary estimate for waves 1-4 (January – August)

^f Projected

N/A = Data not available.

Table 6: Projected recreational scup landings (in number of fish) relative to Commission target for 2016, by state.

State	2016 Target	2016 Projected Landings ^a	Percent Overage
MA	5,181,842 ^b	1,521,096	13%
RI		625,403	
CT		817,081	
NY		2,878,442	
NJ	None	842,737	N/A
DE	None	176	N/A
MD	None	103	N/A
VA	None	37,342	N/A
NC	None	0	N/A
Total		3,319,954	

^a Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016. Projected as described on page 3.

^b The target for the states of MA-NY is 97% of the RHL in numbers of fish. The 2016 target shown is approximate, calculated using the 2016 RHL (6.09 million pounds) and the 2015 mean weight of landed fish (1.14 pounds).

N/A=Not applicable.

Table 7: Percentage of recreational scup landings (numbers of fish) by year and area, Maine through North Carolina, 2007-2016. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.^a

Year	State Waters (<= 3 miles)	EEZ (> 3 miles)
2007	99%	1%
2008	99%	1%
2009	99%	1%
2010	98%	2%
2011	96%	4%
2012	100%	0%
2013	94%	6%
2014	97%	3%
2015	99%	1%
2016	97%	3%
Avg. 2007-2016	98%	2%
Avg. 2014- 2016	98%	2%

^a Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

Table 8: Proportion of 2013-2015 recreational landings (in pounds) from state and federal waters by state. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.^a

State	State Waters (<= 3 miles)	EEZ (> 3 miles)
MAINE	--	--
NEW HAMPSHIRE	--	--
MASSACHUSETTS	96%	4%
RHODE ISLAND	96%	4%
CONNECTICUT	96%	4%
NEW YORK	96%	4%
NEW JERSEY	96%	4%
DELAWARE	5%	95%
MARYLAND	0%	100%
VIRGINIA	100%	0%
NORTH CAROLINA	20%	80%

^a Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

Table 9: Summary of federal management measures for the scup recreational fishery, 1997-2017. ABCs, TACs, ACLs, RHLs, and landings are in millions of pounds. Landings are totals for the states of Maine through North Carolina.

Measure	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
ABC	--	--	--	--	--	--	--	--	--	--
TAC ^a	7.28	5.92	5.92	8.37	12.92	18.65	18.65	18.65	19.79	13.97
Recreational ACL	--	--	--	--	--	--	--	--	--	--
RHL	1.55	1.24	1.24	1.76	2.71	4.01	3.99	3.96	3.99	2.74
Recreational landings ^b	0.87	1.89	5.44	4.26	3.62	8.48	7.28	2.69	3.72	4.56
Possession Limit	-	-	-	50	20	50	50	50	50	50
Size Limit (inches, TL)	7	7	-	9	10	10	10	10	10	10
Open Season	1/1 -12/31	1/1 -12/31	1/1 -12/31	8/15 - 10/31	7/1 - 10/2	1/1-2/28 and 7/1-11/30	1/1-2/28 and 9/7-11/30	1/1-2/28 and 9/18-11/30	1/1-2/28 and 9/18-11/30	1/1-2/28 and 9/18-11/30
Measure	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ABC	--	11.70	17.09	51.70	40.88	38.71	35.99	33.77	31.11	28.40
TAC ^a	9.90	15.54	17.09	31.92	40.88	38.71	35.99	33.77	31.11	28.40
Recreational ACL	--	--	--	--	31.89	30.19	28.07	26.35	6.84	6.25
RHL	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.80	6.09	5.50
Recreational landings ^b	3.79	3.23	5.97	3.67	4.17	5.44	4.74	4.62	7.70 ^c	--
Possession Limit	15	15	10	10	20	30	30	50	50	--
Size Limit (inches, TL)	10.5	10.5	10.5	10.5	10.5	10	9	9	9	--
Open Season	1/1-2/28 and 9/18-11/30	1/1-2/28 and 10/1-10/31	1/1-2/28 and 10/1-10/31	6/6 - 9/26	1/1-12/31	1/1-12/31	1/1-12/31	1/1-12/31	1/1-12/31	--

^a Prior to the implementation of the 2011 Omnibus ACLs and AMs Amendment, the Council specified a Total Allowable Catch (TAC) instead of an ABC for scup. Both terms refer to the total catch limit in a given year, but the amounts occasionally differed during the transition years of 2009-2011. In 2009 this was due to NMFS specifying a revised catch limit after new scientific information became available. In 2011, the difference was due to the Council specifying a more conservative limit than recommended by the SSC.

^b Source: personal communication with the National Marine Fisheries Service, Fisheries Statistics Division, October 19, 2016.

^c Projected

Table 10: Scup recreational management measures by state, 2015 and 2016.

State	Minimum Size (inches)	Possession Limit	Fishing Season
Massachusetts (private and shore)	10	30 fish	May 1- December 31
Massachusetts (party/charter)	10	45 fish	May 1 - June 30
		30 fish	July 1 - December 31
Rhode Island (private and shore)	10	30 fish	May 1- December 31
RI Shore Program (7 designated sites)	9	30 fish	May 1- December 31
Rhode Island (party/charter)	10	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1-October 31
Connecticut (private angler)	10	30 fish	May 1- December 31
Connecticut (45 designated shore sites)	9		
Connecticut (party/charter)	10	30 fish	May 1-August 31 and November 1-December 31
		45 fish	September 1-October 31
New York (private and shore)	10	30 fish	May 1- December 31
New York (party/charter)	10	30 fish	May 1- August 31 and November 1-December 31
		45 fish	September 1- October 31
New Jersey	9	50 fish	Jan 1-Feb 28 and July 1 – December 31
Delaware	8	50 fish	All Year
Maryland	8	50 fish	All Year
Virginia	8	50 fish	All Year
North Carolina, North of Cape Hatteras	8	50 fish	All Year

Table 11: Number of scup landed per trip and frequency of occurrence based on 2011 Marine Recreational Fisheries Statistics Survey data for waves 1-4 and estimated landings per trip under 15 and 20 fish bag limits, assuming compliance.

# per trip	Frequency	# landed	New # per trip with 15 fish limit	# landed with 15 fish limit	# landed with 20 fish limit	New # per trip with 20 fish limit
1	78	78	1	78	1	78
2	44	88	2	88	2	88
3	15	45	3	45	3	45
4	20	80	4	80	4	80
5	5	25	5	25	5	25
6	10	60	6	60	6	60
7	5	35	7	35	7	35
8	4	32	8	32	8	32
9	6	54	9	54	9	54
10	6	60	10	60	10	60
12	2	24	12	24	12	24
14	3	42	14	42	14	42
16	3	48	15	45	16	48
17	1	17	15	15	17	17
19	3	57	15	45	19	57
21	2	42	15	30	20	40
35	1	35	15	15	20	20
26	4	104	15	60	20	80
27	4	108	15	60	20	80
28	1	28	15	15	20	20
30	1	30	15	15	20	20
31	1	31	15	15	20	20
32	1	32	15	15	20	20
34	2	68	15	30	20	40
35	1	35	15	15	20	20
37	1	37	15	15	20	20
38	1	38	15	15	20	20
40	7	280	15	105	20	140
41	1	41	15	15	20	20
43	1	43	15	15	20	20
45	1	45	15	15	20	20
48	1	48	15	15	20	20
50	1	50	15	15	20	20
Total	237	1,840		1,208		1,385
Reduction				34%		25%