



**Mid-Atlantic Fishery Management Council**  
800 North State Street, Suite 201, Dover, DE 19901-3910  
Phone: 302-674-2331 | FAX: 302-674-5399 | [www.mafmc.org](http://www.mafmc.org)  
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman  
Christopher M. Moore, Ph.D., Executive Director

## **M E M O R A N D U M**

**Date:** November 21, 2014  
**To:** Council  
**From:** Kiley Dancy, Staff  
**Subject:** Scup Recreational Measures for 2015

The following materials are enclosed for Council consideration of the above subject:

- 1) Monitoring Committee meeting summary for scup
- 2) Scup staff memo dated November 7, 2014

The advisory panel will meet via webinar on December 3, 2014. A summary of advisory panel comments and recommendations will be provided to the Council and Board prior to the joint meeting to set recreational measures.



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee**  
**Meeting Summary - Scup**  
**November 13, 2014**

**Attendees:** Mike Bednarski (MA-DMF), Jason McNamee (RI-DFW), Peter Clarke (NJ-F&W), Greg Wojcik (CT-DEEP), Sally Roman (VMRC), Rich Wong (DNREC), Steve Doctor (MD-DNR), Moira Kelly (NMFS GARFO), John Maniscalco (NY-DEC), Tom Wadsworth (NC-DMF), Kiley Dancy (Council Staff), Kirby Rootes-Murdy (Commission Staff), Mike Luisi (MD-DNR; MAFMC Demersal Committee Chair), Mark Terceiro (NEFSC; via webinar)

The Monitoring Committee met on Thursday, November 13, 2014 in Linthicum, MD to recommend recreational management measures for summer flounder, scup, and black sea bass in 2015.

### **Scup**

---

The Committee supports the ongoing regional approach for setting measures in state waters. This approach provides flexibility for the states to accommodate the needs of the modes and areas for their individual states.

Because scup will be undergoing a benchmark assessment in 2015, and because of the uncertainty associated with the outcome of that assessment, the Monitoring Committee agrees with the staff recommendation of *status quo* management measures for both state and Federal waters in 2015. However, the Committee notes that Connecticut's measures are currently more restrictive than other northern states, and the group would be comfortable with Connecticut liberalizing measures to align with these other states if they so choose. The Committee does not believe that this would impact management uncertainty to a degree that would impact the recreational harvest limit (RHL).

If the fishery remains open in wave 1 (January 1-February 28), there should be recreational data sampling in place to produce comparable Marine Recreational Information Program (MRIP) estimates. Because of the large underages relative to the recreational harvest limit in recent years, and the fact that wave 1 is currently open only in Federal waters and southern states, the Monitoring Committee does not feel that harvest occurring during wave 1 would impact performance relative to the RHL. However, the Monitoring Committee notes that it is important to document removals occurring from the fishery, and wave 1 catch is currently not incorporated into final catch estimates or into the stock assessment.

## MEMORANDUM

**Date:** November 7, 2014  
**To:** Chris Moore  
**From:** Kiley Dancy, Staff  
**Subject:** Scup Recreational Management Measures in 2015

In August 2014, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) reviewed previously implemented commercial quotas and recreational harvest limits for scup for the 2015 fishing year. These limits were recommended by the Council and Board in 2012 as part of multi-year specifications for 2013-2015. At the August 2014 meeting, the Council and Board, after considering the advice of the Scientific and Statistical Committee (SSC) and Monitoring Committee, recommended no changes to the current 2015 specifications.

The final rule implementing the 2015 commercial quota and recreational harvest limit (RHL) published on May 22, 2014, and included an adjusted 2015 recreational harvest limit for scup of 6.60 million lbs. However, the Council voted at its August 2014 meeting to suspend the 3% Research Set-Aside (RSA) allowance in 2015 pending a review of the RSA program. Therefore, NMFS will redistribute the previous 3% RSA deduction back to the landings limits, resulting in a 2015 scup RHL of 6.80 million lb (3,085 mt).

The Monitoring Committee must recommend recreational management measures for 2015 that will constrain landings to the recreational harvest limit. The following is a review of recreational catch and landings data for the scup fishery to help in the Monitoring Committee's deliberations.

### **Recreational Catch and Landings**

Recreational catch of scup has fluctuated since 1981, from a peak in 1986 of 30.87 million fish to a time series low of 2.67 million fish in 1998. Landings have fluctuated from a high of 11.61 million lb in 1986 to a low of 0.88 million lb in 1998. Recreational landings were estimated to be 5.11 million lb in 2013 (Table 1), approximately 32% below the 2013 RHL of 7.55 million lb.

The 2014 Marine Recreational Information Program (MRIP) data are incomplete and preliminary. To date, only the first four waves (January through August) of catch and landings data for the current year are available (Table 2). The Monitoring Committee does an early review of the MRIP data because the Council and Commission agreed that recommendations would have to be made late in the current year (i.e., 2014) to give the states enough time to enact changes to their regulations for the upcoming year (i.e.,

2015). Preliminary data indicate that 5.52 million fish have been caught and 2.85 million fish have been landed through wave 4 in 2014. By weight, landings through wave 4 were 3.21 million lb, with the mean weight of landed scup at approximately 1.13 lb (Table 2). Wave 1-4 landings decreased between 2013 and 2014 in Massachusetts, Connecticut, New Jersey, and Virginia; landings in other states were stable or increased (Table 3).

Preliminary wave data for 2014 can be 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. Projected catch for 2014 is 8.45 million fish, and projected landings are 4.73 million lb (Table 1). Landings for some states have been consistently difficult to project for scup, given low and/or fluctuating landings. Specifically, states such as New Jersey and Virginia tend to alternate between waves 4 and 5 as the dominant wave. For 2014 projections, alternate projection methods were used for New Jersey, Delaware, and Virginia, using average landings by wave for the previous 5 years, to stabilize those estimates and more realistically project 2014 landings. In general, because prior year proportions are used in the projections, landings will likely be overestimated for states with more restrictive seasons in 2014, and for those with less restrictive seasons, landings will likely be underestimated.

### **Past Harvest Limits and Management Measures**

Recreational harvest limits have varied since the Fishery Management Plan (FMP) was first implemented, from a low of 1.24 million lb in 1999 and 2000, to a high of 8.45 million lb in 2012 (Table 5). Until 2002, the scup recreational fishery was managed with coastwide measures as dictated by the FMP, which 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 regional harvest limits for state waters and allocated 97 percent of the coastwide limit to the states of Massachusetts to New York. State waters measures have grown increasingly complex, with variable possession limits and minimum sizes by fishing mode (i.e., party/charter versus private angler) and by season (Table 6).

For 2014, the Council adopted Federal management measures that included a 30 fish possession limit, a 9 inch total length (TL) size limit, and an open season from January 1 through December 31 (Table 5). These measures included a decrease in the size limit between 2013 and 2014 for scup, from 10 inches to 9 inches TL. The Commission continued the regional approach to scup management in state waters, and most state regulations remained *status quo* between 2013 and 2014 (Table 6).

### **Accountability Measures**

In 2013, the Council modified the recreational accountability measures (AMs) for Mid-Atlantic species through an Omnibus Recreational Accountability Measures 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 accountability measures will no longer necessarily include a direct pound-for-pound payback of the overage amount in a subsequent fishing year. Instead, accountability measures are now tied to stock status, and though paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below.

As modified, the recreational AMs are as follows: the recreational sector ACL is evaluated based on a 3-year moving average comparison of total catch (landings and dead discards). 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 accountability measure 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) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the 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) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.

Accountability measures have not been triggered for the recreational scup fishery based on a comparison of average 2012-2013 catch to the 2012-2013 average ACL. Recreational performance for 2014 will be evaluated in 2015, once final catch estimates are available, and taken into account in next year's recreational specifications process if necessary.

### **Methodology**

The Monitoring Committee must consider and recommend measures that will ensure the recreational harvest limit will not be exceeded in 2015. Based on the projected landings estimate for 2014 of 4.73 million lb, landings would not have to be reduced to achieve the 2015 harvest limit of 6.80 million lb. The 2014 projected landings are 30% lower than the 2015 harvest limits.

The length distributions of landed scup in 2012 and 2013 are given in Figure 1. The recreational fishery has harvested less than the recreational harvest limit since 2011, when overall catch limits were significantly increased (Table 9). The possession limit, size limit, and season could be modified for scup to achieve the desired harvest level in 2015. Based on a review of preliminary recreational data and the slight downward trend in stock biomass in recent years as indicated by the 2012 stock assessment update (Terceiro 2012), staff do not expect that the availability of scup to the recreational fishery will substantially increase.

Table 7 provides the distribution of landings by wave from 1996-2000, when identical state and Federal waters measures (coastwide) were in place. The impacts of modifications to more recent scup management measures are difficult to analyze, given the complex and variable set of regulations implemented in state waters for the past several years. It is apparent that the state management measures in place for Massachusetts to North Carolina in 2007-2010 in conjunction with Federal measures did not constrain

landings to the harvest limits, and resulted in substantial overages; however, harvest limits were much lower than current levels during those years (Table 9). An examination of scup landings (in numbers) by area indicates that from 2011-2013, less than 3 percent of the scup landings, on average, originated from Federal waters (> 3 miles); although the data by area is self-reported from intercepts and has associated caveats (Table 4). Despite those caveats, this suggests the majority of scup landings are occurring in state waters, specifically Massachusetts through New York.

### **Fishing Trips and Year Class Effects**

Predicting the number of trips that might be taken in 2015 is complicated (Table 9). 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 characteristics (age, gender, race, income, etc.) 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 breakdown in the assumptions associated with specific sets of regulations and their anticipated results. Also, year-class effects in terms of fish availability can influence the expected impacts of management measures and should be considered.

### **2015 Staff Recommendation**

For 2015, staff recommend maintaining *status quo* recreational measures in Federal waters, which include a 30-fish possession limit, a 9-inch TL size limit, and a year-round open season. Given the Board's typical approval of regional management for scup and the fact that the vast majority of scup are landed in state waters (Table 4), staff recommend that any liberalizations to management measures be made with caution in state waters. Some concerns have been raised about the projections of biomass associated with the current stock assessment and related sources of uncertainty in the assessment. A new benchmark assessment for scup is scheduled for the first half of 2015, from which harvest limits for 2016 and beyond will be derived. In anticipation of this new assessment and potential changes in harvest limits, staff recommend maintaining some short-term stability in the recreational regulations, and re-evaluating recreational measures next year following completion of the benchmark assessment.

In 2013, approximately 8.5 million scup were caught, with a release rate of approximately 50% (Table 1). Given that the stock size for scup is projected to decrease slightly in 2015, staff expect no major changes in availability. Staff remain concerned with the use of high possession limits in recreational fisheries, given that high bag limits contribute to high variance in the catch estimates and the potential for relatively unconstrained fishing effort under high fish availability conditions. Additionally, the mean weight of landed scup has increased significantly in recent years, from 0.75 lb in 2000 to a high of 1.20 lb in 2011 (Table 1). Given that the recreational fishery is managed with weight-based harvest limits, the implications of high possession limits when the mean weight is over 1 lb are substantially different than the same possession limit during earlier periods where the average scup landed were smaller.

In summary, staff recommend *status quo* Federal measures for 2015, which include a 9.0-inch TL minimum fish size, 30 fish possession limit, and open season from January 1 to December 31. Staff recommend that any liberalizations be made with caution in state waters.

**Table 1. Scup recreational catch and landings by year, Maine through North Carolina, 1981-2014, all waves. The number of fish released is presented as a proportion of the total catch (% Released).**

<b>Year</b>	<b>Catch<sup>a</sup> ('000 fish)</b>	<b>Landings<sup>a</sup> ('000 fish)</b>	<b>Landings<sup>a</sup> ('000 lb)</b>	<b>% Released</b>	<b>Mean weight (lb)</b>
1981	10,376	9,084	5,812	12%	0.64
1982	7,181	6,454	5,205	10%	0.81
1983	10,155	8,837	6,252	13%	0.71
1984	7,775	6,057	2,416	22%	0.40
1985	13,861	10,810	6,093	22%	0.56
1986	30,872	24,823	11,605	20%	0.47
1987	12,377	9,916	6,197	20%	0.62
1988	7,539	6,062	4,267	20%	0.70
1989	11,394	9,176	5,557	19%	0.61
1990	10,172	8,043	4,140	21%	0.51
1991	16,852	13,279	8,087	21%	0.61
1992	10,077	7,764	4,412	23%	0.57
1993	7,076	5,663	3,197	20%	0.56
1994	5,650	4,270	2,628	24%	0.62
1995	3,767	2,419	1,344	36%	0.56
1996	4,676	2,972	2,156	36%	0.73
1997	3,070	1,916	1,198	38%	0.62
1998	2,670	1,211	875	55%	0.72
1999	4,636	3,251	1,886	30%	0.58
2000	11,284	7,244	5,443	36%	0.75
2001	9,925	5,099	4,262	49%	0.84
2002	7,580	3,647	3,624	52%	0.99
2003	14,661	9,452	8,484	36%	0.90
2004	13,426	7,154	7,277	47%	1.02
2005	7,038	2,589	2,692	63%	1.04
2006	9,615	3,434	3,716	64%	1.08
2007	10,051	4,748	4,564	53%	0.96
2008	10,706	3,487	3,788	67%	1.09
2009	8,704	3,134	3,230	64%	1.03
2010	11,147	5,148	5,969	54%	1.16
2011	6,473	3,056	3,665	53%	1.20
2012	8,829	3,668	4,172	58%	1.14
2013	9,545	4,716	5,113	51%	1.08
2014 <sup>b</sup>	8,451	4,213	4,729	50%	1.12

<sup>a</sup> For 1981-2003 data are MRFSS, 2004-2013 are MRIP.

<sup>b</sup> 2014 catch and landings are projected using proportion by wave from 2013 MRIP data and 2014 MRIP wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 27, 2014).

**Table 2. Scup recreational catch and landings for waves 1-4 (January-August), Maine through North Carolina, 1981-2014.**

<b>Year</b>	<b>Catch ('000 fish)</b>	<b>Landings ('000 fish)</b>	<b>Landings ('000 lb)</b>	<b>Mean Weight (lb)</b>
1981	5,710	4,604	2,523	0.55
1982	5,303	4,908	4,166	0.85
1983	5,603	4,754	3,327	0.70
1984	6,726	5,230	1,780	0.34
1985	5,478	4,435	3,092	0.70
1986	16,849	13,941	5,911	0.42
1987	9,192	7,403	4,779	0.65
1988	4,273	3,351	2,246	0.67
1989	6,332	5,214	3,406	0.65
1990	6,312	4,999	2,341	0.47
1991	10,224	8,087	4,768	0.59
1992	5,505	4,286	2,507	0.58
1993	3,979	3,228	1,660	0.51
1994	2,622	2,078	1,186	0.57
1995	1,334	869	500	0.58
1996	2,611	1,560	1,164	0.75
1997	1,704	1,069	773	0.72
1998	1,710	766	588	0.77
1999	2,523	1,750	963	0.55
2000	5,728	3,991	2,991	0.75
2001	6,281	3,118	2,422	0.78
2002	4,024	1,787	1,562	0.87
2003	8,998	5,960	5,667	0.95
2004	8,347	4,740	4,638	0.98
2005	2,769	1,311	1,461	1.11
2006	5,123	2,170	2,225	1.03
2007	5,151	2,901	2,526	0.87
2008	6,525	2,115	2,235	1.06
2009	6,725	2,471	2,520	1.02
2010	7,862	3,795	4,476	1.18
2011	3,938	1,776	2,094	1.18
2012	6,627	2,795	3,102	1.11
2013	6,330	3,275	3,506	1.07
2014	5,520	2,854	3,213	1.13

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 27, 2014. For 1981-2003 data are MRFSS, 2004-2014 are MRIP.



**Table 3. Scup recreational landings (number '000) by state, waves 1-4, 2004-2013.**

State	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ME	-	-	-	-	-	-	-	-	-	-	-
NH	-	-	-	-	-	-	-	-	-	-	-
MA	2,787	598	374	1,718	598	988	774	661	1,545	1,730	1,126
RI	661	212	359	167	428	76	276	195	201	516	682
CT	98	169	266	397	280	252	670	631	544	348	245
NY	1,163	325	952	592	790	1,127	1,585	280	420	679	800
NJ	31	4	219	26	14	28	483	2	83	<1	0
DE	0	<1	<1	<1	1	<1	0	0	0	0	<1
MD	0	0	0	<1	<1	0	0	0	0	0	0
VA	0	0	0	<1	4	0	5	6	0	1	0
NC	<1	2	<1	0	0	0	1	<1	<1	<1	<1

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 27, 2014. All data are from MRIP.

**Table 4: Percentage of scup recreational landings (numbers of fish) by year and area, Maine through North Carolina, 2004-2013. Area information is self-reported based on the area where the majority of fishing activity occurred per angler trip.**

Year	State <= 3 mi	EEZ > 3 mi
2004	94.8%	5.2%
2005	98.2%	1.8%
2006	93.6%	6.4%
2007	98.3%	1.7%
2008	96.2%	3.8%
2009	98.1%	1.9%
2010	95.8%	4.2%
2011	96.4%	3.6%
2012	99.5%	0.5%
2013	95.3%	4.7%
<b>Avg. 2004-2013</b>	96.6%	3.4%
<b>Avg. 2011- 2013</b>	97.1%	2.9%

**Table 5. Summary of Federal management measures for the scup recreational fishery, 1997-2015.**

Measure	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Harvest Limit (m lb)</b>	1.95	1.55	1.24	1.24	1.76	2.71	4.01	3.99	3.96	3.99
<b>Landings (m lb)</b>	1.20	0.87	1.89	5.44	4.26	3.62	8.48	7.28	2.69	3.72
<b>Possession Limit</b>	-	-	-	-	50	20	50	50	50	50
<b>Size Limit (TL in)</b>	7	7	7	-	9	10	10	10	10	10
<b>Open Season</b>	1/1 - 12/31	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
Measure	2007	2008	2009	2010	2011	2012	2013	2014	2015	
<b>Harvest Limit (m lb)</b>	2.74	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.80 <sup>a</sup>	
<b>Landings (m lb)</b>	4.56	3.79	3.23	5.97	3.67	4.17	5.11	-	-	
<b>Possession Limit</b>	50	15	15	10	10	20	30	30	-	
<b>Size Limit (TL in)</b>	10	10.5	10.5	10.5	10.5	10.5	10	9	-	
<b>Open Season</b>	1/1-2/28 and 9/18-11/30	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	-	

<sup>a</sup> Includes 3% RSA added back to the harvest limit, as per the Council's August 2014 decision to suspend the RSA program in 2015. Previous 2015 RHL was 6.60 mil lb.

**Table 6. Scup recreational management measures by state, 2013 (a) and 2014 (b).**

**a) 2013 scup measures by state.**

State	Minimum Size (inches)	Possession Limit	Fishing Season
Massachusetts (private angler)	10	30 fish; boat limit of 150 for private vessels with 6+ people aboard	May 1-December 31
Massachusetts (party/charter)	10	45 fish	May 1-June 30
		30 fish	July 1-December 31
Rhode Island (private angler)	10	30 fish	May 1-December 31
	9 (at 4 designated shore sites)		
Rhode Island (party/charter)	10	30 fish	May 1-August 31 and November 1-December 31
		45 fish	September 1-October 31
Connecticut (private angler)	10.5	20 fish	May 1-December 31
	9 (at 45 designed shore sites)		
Connecticut (party/charter)	11	20 fish	May 1-August 31 and November 1-December 31
		45 fish	September 1-October 31
New York (private angler)	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	All Year
Delaware	8	50 fish	All Year
Maryland	8	50 fish	All Year
Virginia	8	50 fish	All Year
North Carolina, North of Cape Hatteras (N of 35° 15'N)	8	50 fish	All Year

**b) 2014 scup measures by state.**

State	Minimum Size (inches)	Possession Limit	Fishing Season
Massachusetts (private angler)	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 angler)	10	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)	10.5	20 fish	May 1-December 31
Connecticut (45 designated shore sites)	9		
Connecticut (party/charter)	10.5	20 fish	May 1-August 31; November 1-December 31
	11	45 fish	September 1-October 31
New York (private angler)	10	30 fish	May 1-December 31
New York (party/charter)	10	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1- October 31
New Jersey	9	50 fish	January 1-February 28; July 1-December 31
Delaware	8	50 fish	January 1-December 31
Maryland	8	50 fish	January 1-December 31
Virginia	8	50 fish	January 1-December 31
North Carolina, North of Cape Hatteras (N of 35° 15'N)	8	50 fish	January 1-December 31

**Table 7. Projected recreational scup landings (in number of fish) relative to Commission targets for 2014, by state.**

State	2014 Target	2014 Projected Landings <sup>a</sup>	Percent Overage (%)
MA	6,313,981 <sup>b</sup>	1,205,164	0%
RI		1,080,184	
CT		646,840	
NY		1,152,496	
NJ	<sup>c</sup>	126,286	N/A
DE	<sup>c</sup>	195	N/A
MD	<sup>c</sup>	0	N/A
VA	<sup>c</sup>	1,420	N/A
NC	<sup>c</sup>	701	N/A
Total		4,213,287	

<sup>a</sup> Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 27, 2014. Projected as described above using prior year's landings proportions.

<sup>b</sup> States of MA, RI, CT, and NY formed a multi-state region and pooled landings, targets, and implemented similar regulations.

<sup>c</sup> State does not have specific target. N/A=Not applicable.

**Table 8. a) Average percent of scup landed (in number) by wave, based on 1996-2000 MRFSS landings data and b) projected reduction in scup landings (in number) associated with closing one day per wave, based on 1996-2000 MRFSS landings data.**

**a.**

State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
<b>MA</b>	0.0	0.0	37.4	31.5	31.1	0.0
<b>RI</b>	0.0	0.0	4.9	48.1	45.7	1.3
<b>CT</b>	0.0	0.0	8.2	49.6	42.2	0.0
<b>NY</b>	0.0	0.0	22.0	27.7	48.8	1.5
<b>NJ</b>	0.0	0.3	0.0	3.0	78.6	18.1
<b>DE</b>	0.0	0.0	0.0	9.0	89.9	1.1
<b>MD</b>	0.0	0.0	0.0	46.2	0.0	53.8
<b>VA</b>	0.0	0.0	0.0	0.0	87.8	12.2
<b>NC</b>	0.0	3.3	40.9	31.3	24.5	0.0
<b>Coast</b>	0.0	0.4	12.6	27.4	49.8	9.8

**b.**

State	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
<b>MA</b>	0.0	0.0	0.61	0.51	0.51	0.0
<b>RI</b>	0.0	0.0	0.08	0.78	0.75	0.02
<b>CT</b>	0.0	0.0	0.13	0.80	0.69	0.00
<b>NY</b>	0.0	0.0	0.36	0.45	0.80	0.02
<b>NJ</b>	0.0	0.01	0.0	0.05	1.29	0.30
<b>DE</b>	0.0	0.0	0.0	0.15	1.47	0.02
<b>MD</b>	0.0	0.0	0.0	0.74	0.0	0.88
<b>VA</b>	0.0	0.0	0.0	0.0	1.44	0.20
<b>NC</b>	0.0	0.05	0.67	0.50	0.40	0.0
<b>Coast</b>	0.0	0.01	0.21	0.44	0.82	0.16

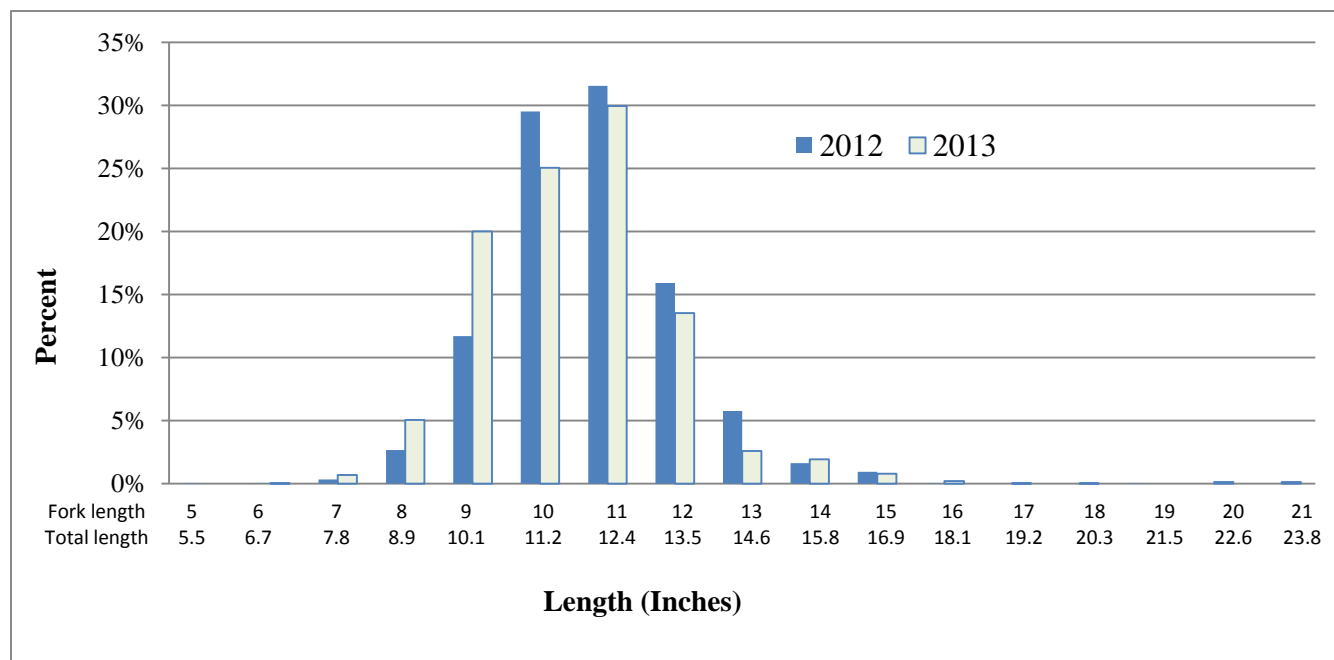
**Table 9. Number of scup recreational fishing trips, harvest limit, landings, and fishery performance from**

**Maine through North Carolina, 1994 to 2015.**

<b>Year</b>	<b>Number of Directed Fishing Trips<sup>a</sup></b>	<b>Percentage of Directed Trips relative to Total Trips<sup>a,b</sup></b>	<b>Recreational Harvest Limit (million lb)</b>	<b>Recreational Landings of Scup (million lb)<sup>d</sup></b>	<b>Percentage Overage (+)/ Underage (-)</b>
<b>1994</b>	435,625	1.6	None	2.63	NA
<b>1995</b>	242,956	0.9	None	1.34	NA
<b>1996</b>	241,322	0.9	None	2.16	NA
<b>1997</b>	198,754	0.7	1.95	1.20	-38%
<b>1998</b>	213,842	0.8	1.55	0.87	-44%
<b>1999</b>	231,596	0.9	1.24	1.89	+52%
<b>2000</b>	485,039	1.4	1.24	5.44	+339%
<b>2001</b>	484,604	1.3	1.77	4.26	+141%
<b>2002</b>	481,716	1.6	2.71 <sup>c</sup>	3.62	+34%
<b>2003</b>	971,770	2.8	4.01 <sup>c</sup>	8.48	+111%
<b>2004</b>	698,561	2.0	4.01 <sup>c</sup>	7.28	+82%
<b>2005</b>	545,729	1.5	3.96 <sup>c</sup>	2.69	-32%
<b>2006</b>	547,761	1.5	4.15 <sup>c</sup>	3.72	-10%
<b>2007</b>	516,752	1.4	2.74 <sup>c</sup>	4.56	+66%
<b>2008</b>	536,305	1.5	1.83 <sup>c</sup>	3.79	+107%
<b>2009</b>	538,085	1.8	2.59 <sup>c</sup>	3.23	+25%
<b>2010</b>	699,520	2.4	3.01 <sup>c</sup>	5.97	+98%
<b>2011</b>	477,279	1.8	5.74 <sup>c</sup>	3.67	-36%
<b>2012</b>	603,128	2.3	8.45 <sup>c</sup>	4.17	-51%
<b>2013</b>	524,851	2.1	7.55 <sup>c</sup>	5.11	-32%
<b>2014</b>	NA	NA	7.03 <sup>c</sup>	NA	NA
<b>2015</b>	NA	NA	6.80	NA	NA

<sup>a</sup> Estimated number of recreational fishing trips (expanded) where the primary target species was scup, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 29, 2014. <sup>b</sup> Source of total trips for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 29, 2014. <sup>c</sup> Adjusted for research set-aside. <sup>d</sup> Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 27, 2014. NA = Data not available.

**Figure 1. Expanded length frequencies of landed scup from 2012 and 2013 MRIP data, as a percent of total landed fish. Each length bin contains fish from X.0 to X.99 inches.**



Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 3, 2014. Fork length to total length conversion based on Hamer 1979.

## **References**

Terceiro M. 2012. Stock Assessment of Scup for 2012. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 12-21; 148 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at <http://www.nefsc.noaa.gov/publications/crd/>.

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