



## Scup Fishery Information Document

June 2017

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This document provides a brief overview of the biology, stock condition, management system, and fishery performance for scup with an emphasis on 2016, the most recent complete fishing year.

### 1. Biology

Scup (*Stenotomus chrysops*) are a schooling, demersal (i.e., bottom-dwelling) species. They are found in a variety of habitats in the Mid-Atlantic. Essential fish habitat (EFH) for scup 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. Scup 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.<sup>1</sup>

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 age 7 are caught in the Mid-Atlantic.<sup>2,3</sup>

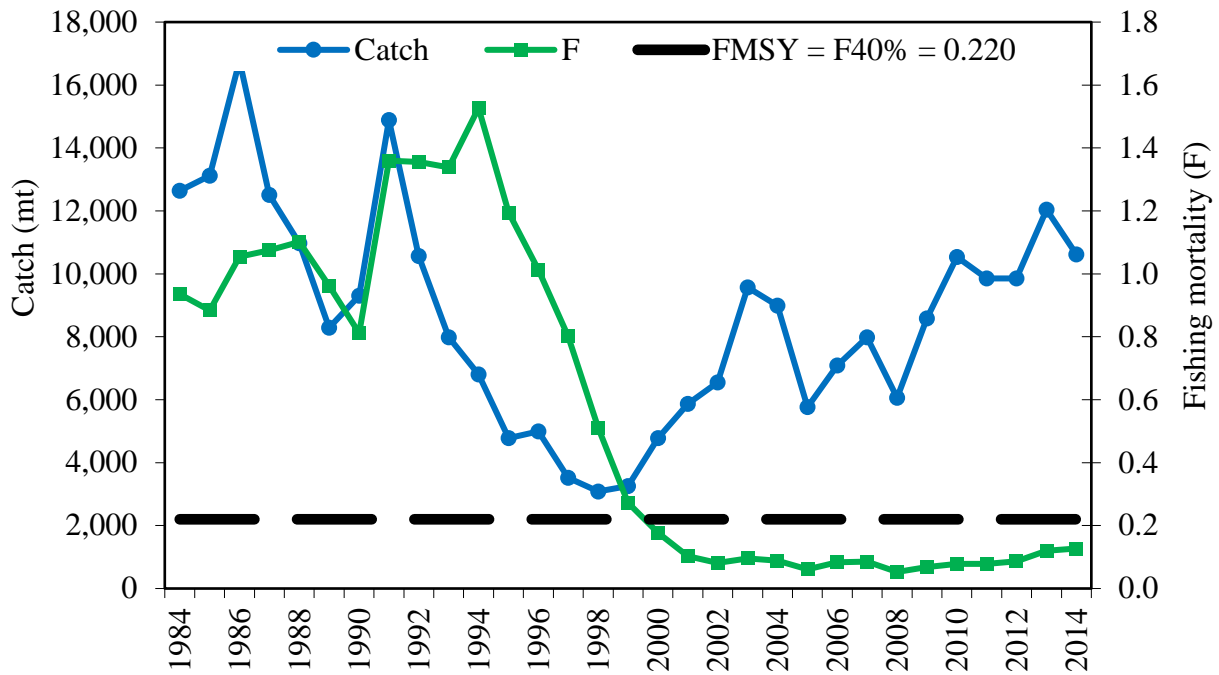
Adult scup are benthic feeders. They consume a variety of prey, including small crustaceans (including zooplankton), polychaetes, mollusks, small squid, vegetable detritus, insect larvae, hydroids, sand dollars, and small fish. The Northeast Fisheries Science Center's (NEFSC's) food habits database lists several predators of scup, including several shark species, skates, silver hake, bluefish, summer flounder, black sea bass, weakfish, lizardfish, king mackerel, and monkfish.<sup>1</sup>

### 2. Status of the Stock

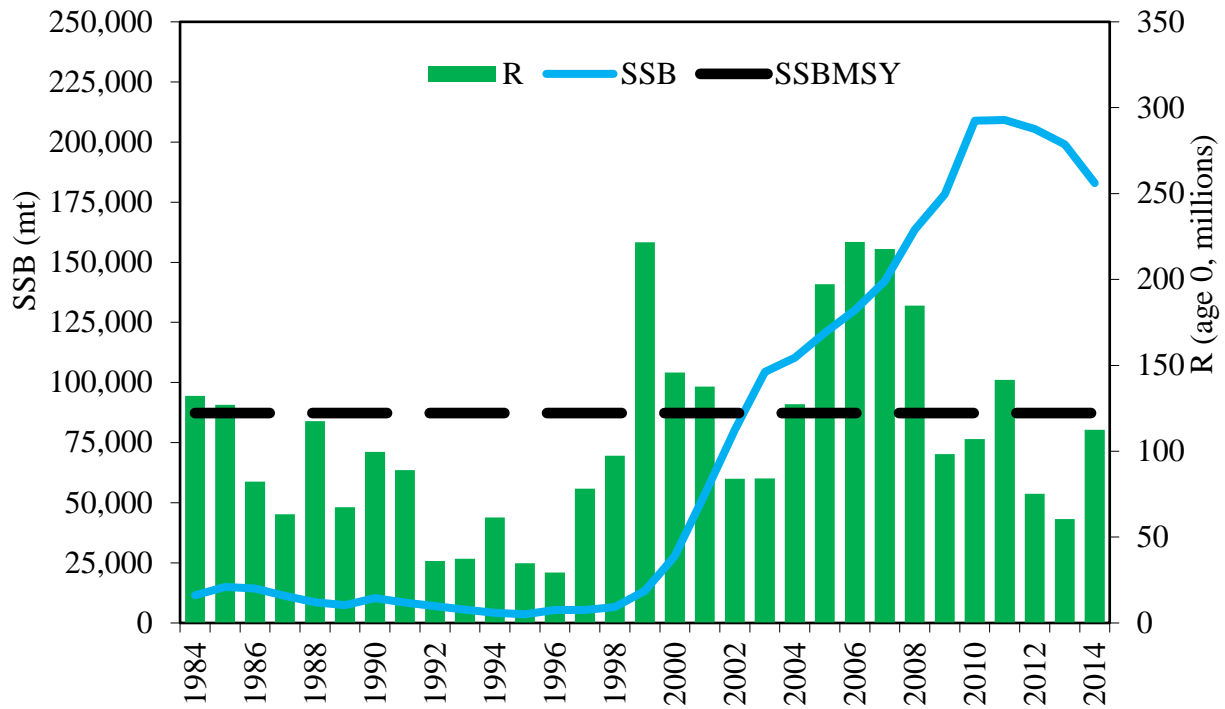
The scup stock was designated as overfished in 2005, triggering the establishment of a rebuilding plan (implemented in 2007 via Amendment 14 to the Fishery Management Plan). Scup were declared rebuilt ahead of schedule in 2009 after a benchmark stock assessment determined that the stock was no longer overfished and overfishing was not occurring.<sup>2</sup>

The most recent scup benchmark stock assessment took place in 2015 and found that scup were not overfished and overfishing was not occurring in 2014. Spawning stock biomass was estimated to be about 210% of the target biomass. Fishing mortality in 2014 was estimated to be about 57% of the overfishing threshold.<sup>3</sup>

A data update with information on scup fishery catch, landings, and discards, as well as Northeast Fisheries Science Center (NEFSC) and state survey catches indicated that through 2015 scup biomass continued to be high, relative exploitation ratios remained low, and the 2015 year class appeared to be large.<sup>4</sup>



**Figure 1:** Total fishery catch and fishing mortality rate (F) for scup, 1984-2014. The horizontal dashed line is the fishing mortality reference point. Overfishing is occurring when the fishing mortality rate exceeds this threshold.<sup>3</sup>



**Figure 2:** Scup spawning stock biomass (SSB) and Recruitment (R), 1984-2014.<sup>3</sup>

### **3. Management System and Overall Fishery Performance**

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) work cooperatively to develop fishery regulations for scup off the east coast of the United States. The Council and Commission work in conjunction with the National Marine Fisheries Service (NMFS), which 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, also known as the Exclusive Economic Zone or EEZ). 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 to that plan. Amendment 8 also established measures to ensure effective management of scup fisheries, including gear restrictions, reporting requirements, commercial quotas, a moratorium on new commercial scup permits, recreational possession limits, and minimum size restrictions. 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/](http://www.mafmc.org/sf-s-bsb/).

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for scup. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the quota 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, which are landings-based limits. Table 1 shows scup catch and landings limits from 2007 through 2018, as well as commercial and recreational landings through 2016.

Scup support sizable commercial and recreational fisheries in the Mid-Atlantic. Total scup landings (commercial and recreational) from Maine to North Carolina peaked in 1981 at over 27 million pounds and reached a low of 5.1 million pounds in 1998. In 2016, about 20.02 million pounds of scup were landed by commercial and recreational fishermen (Figure 3).<sup>5,6</sup>

**Table 1:** Summary of catch limits, landings limits, and landings for commercial and recreational scup fisheries from 2007 through 2018.

Measure	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>e</sup>	2018 <sup>e</sup>
ABC (mil. lb) <sup>a</sup>	--	--	11.70	17.09	51.70	40.88	38.71	35.99	33.77	31.11	28.40	27.05
TAC (mil. lb) <sup>b</sup>	13.97	9.90	15.54	17.09	31.92	--	--	--	--	--	--	--
Commercial ACL (mil. lb) <sup>c</sup>	--	--	--	--	--	31.89	30.19	28.07	26.35	24.26	22.15	21.10
Commercial quota (mil. lb) <sup>d</sup>	8.90	5.24	8.37	10.68	20.36	27.91	23.53	21.95	21.23	20.47	18.38	17.34
Commercial landings (mil. lb)	9.25	5.19	8.20	10.40	15.03	14.88	17.87	15.96	17.03	15.76	--	--
% of commercial quota landed	104%	99%	98%	97%	74%	53%	76%	72%	80%	77%	--	--
Recreational ACL (mil. lb) <sup>c</sup>	--	--	--	--	--	8.99	8.52	7.92	7.43	6.84	6.25	5.95
Recreational harvest limit (mil. lb) <sup>d</sup>	2.74	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.80	6.09	5.50	5.21
Recreational landings (mil. lb)	4.56	3.79	3.23	5.97	3.67	4.17	5.37	4.43	4.41	4.26	--	--
% of recreational limit harvested	166%	207%	125%	198%	64%	49%	71%	63%	65%	70%	--	--

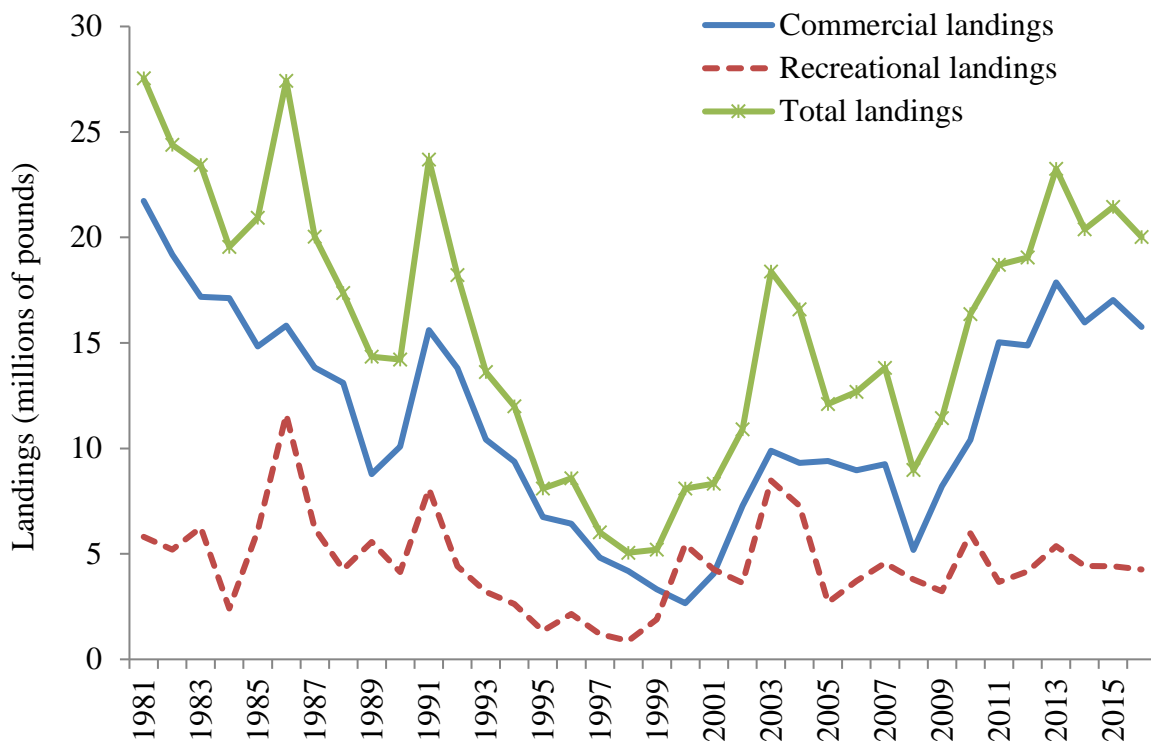
<sup>a</sup> The ABC is the annual Acceptable Biological Catch for the entire scup fishery, and is divided into sector-specific Annual Catch Limits (ACLs) for the commercial and recreational fisheries. The ABC and ACLs include both landings and discards.

<sup>b</sup> Prior to the 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 2009 is 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 that recommended by the SSC.

<sup>c</sup> ACLs are annual sector-specific catch limits for the commercial and recreational fisheries. ACLs include both landings and discards.

<sup>d</sup> Commercial quotas and recreational harvest limits reflect the removal of projected discards from the sector-specific ACLs. For 2006-2014, these limits are also adjusted for Research Set Aside (RSA). Quotas and harvest limits for 2015-2018 do not reflect an adjustment for RSA due to the suspension of the program in 2014.

<sup>e</sup> In 2015, the Council implemented ABCs, ACLs, commercial quotas, and recreational harvest limits for 2016-2018. The 2018 measures will be reviewed by the SSC, the Council, and the Commission in 2017 and may be modified.



**Figure 3:** Commercial and recreational scup landings, Maine - North Carolina, 1981-2016.<sup>5,6</sup>

#### 4. Commercial Fishery Regulations and Performance

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 2016, commercial fishermen landed 15.76 million pounds of scup, about 77% of the commercial quota.<sup>5</sup>

A moratorium permit is required to fish commercially for scup. In 2016, 632 vessels held commercial moratorium permits for scup.<sup>7</sup>

The commercial scup fishery operates year-round, taking place mostly in federal waters during the winter months 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 (Table 2). 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 Council and Commission recently modified the dates to the quota periods for the first time since they were first implemented in 1997 (Table 2). This change is expected to be effective in 2018.

The summer period quota is divided among states according to the allocation percentages outlined in the Commission’s FMP (Table 3). 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 of scup 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. The winter II possession limit was 18,000 pounds in 2016 due to quota rollover from the winter I period. During the summer period, various state-specific possession limits are in effect.

During the winter I period in 2016, about 99% of the 1,616 commercial trips which landed scup landed less than 40,000 pounds of scup and about 95% landed less than 23,000 pounds. About 99% of the 1,531 commercial trips which landed scup during the winter II period in 2016 landed less than 16,770 pounds of scup and over 95% landed less than 9,000 pounds.<sup>5</sup>

**Table 2:** Dates, allocations, and possession limits for the commercial scup quota periods.

<b>Quota Period</b>	<b>Dates</b>	<b>Percentage of commercial quota allocated</b>	<b>Possession limit</b>
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 – October 31*	38.95%	State-specific
Winter II	November 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.

\*In May 2017 the Council and Commission voted to modify the dates of the Summer quota period to May 1 – September 30 and the Winter II period to October 1 – December 31. These changes are expected to be implemented for the 2018 fishing year. All other measures associated with the quota periods will remain unchanged.

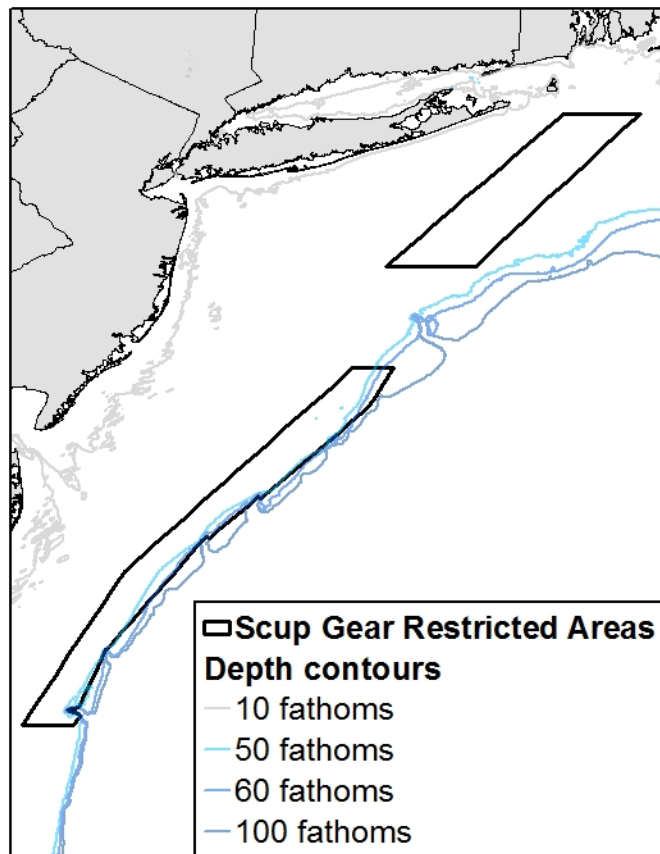
**Table 3:** State-by-state quotas for the commercial scup fishery during the summer quota period.

<b>State</b>	<b>Share of summer quota</b>
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%

The commercial scup fishery in federal waters is predominantly a bottom otter trawl fishery. In 2016, about 97% of the commercial scup landings reported on vessel trip reports (VTRs) were caught with bottom otter trawls. Gillnets accounted for about 1% of the landings. All other gear types each accounted for less than 1% of the 2016 commercial scup landings.<sup>8</sup>

Trawl vessels may not possess 1,000 pounds or more of scup during November - April, or 200 pounds or more during May - October, 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. 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.

Two scup Gear Restricted Areas (GRAs) were implemented in 2000 with the goal of reducing scup discards in small-mesh fisheries. 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 (Figure 4). The GRAs are thought to have contributed to the recovery of the scup population in the mid- to late-2000s.<sup>9</sup> The Council modified the boundaries of the GRAs several times since they were first implemented. Most recently, the Council modified the boundaries of the Southern GRA in late 2016.

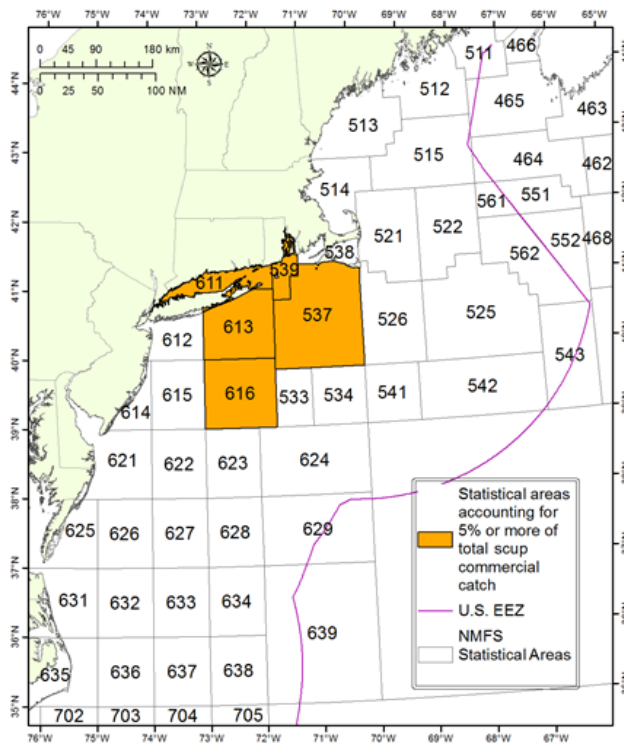


**Figure 4:** The Scup Gear Restricted Areas.

VTR data suggest that NMFS statistical areas 537, 613, and 616 were responsible for the largest percentage of commercial scup catch in 2016. Statistical area 539, off Rhode Island, had the highest number of trips which caught scup (Table 4, Figure 5).<sup>8</sup>

**Table 4:** Statistical areas which accounted for at least 5% of the total commercial scup catch in 2016, with associated number of trips.<sup>8</sup>

Statistical Area	Percent of 2016 Commercial Scup Catch	Number of Trips
537	29%	1,671
613	18%	1,449
616	16%	404
539	15%	2,372
611	9%	2,005



**Figure 5:** NMFS Statistical Areas, highlighting those which accounted for at least 5% of the commercial scup catch in 2016.<sup>8</sup>

Over the past two decades, total scup ex-vessel revenue ranged from a low of \$4.66 million in 2000 to a high of \$11.05 million in 2015 (both values adjusted to 2016 dollars to account for inflation).<sup>5</sup> In 2016, 15.75 million pounds of scup were landed by commercial fishermen from Maine through North Carolina. The total ex-vessel value was \$10.70 million, resulting in an average price per pound of \$0.68.<sup>5</sup>

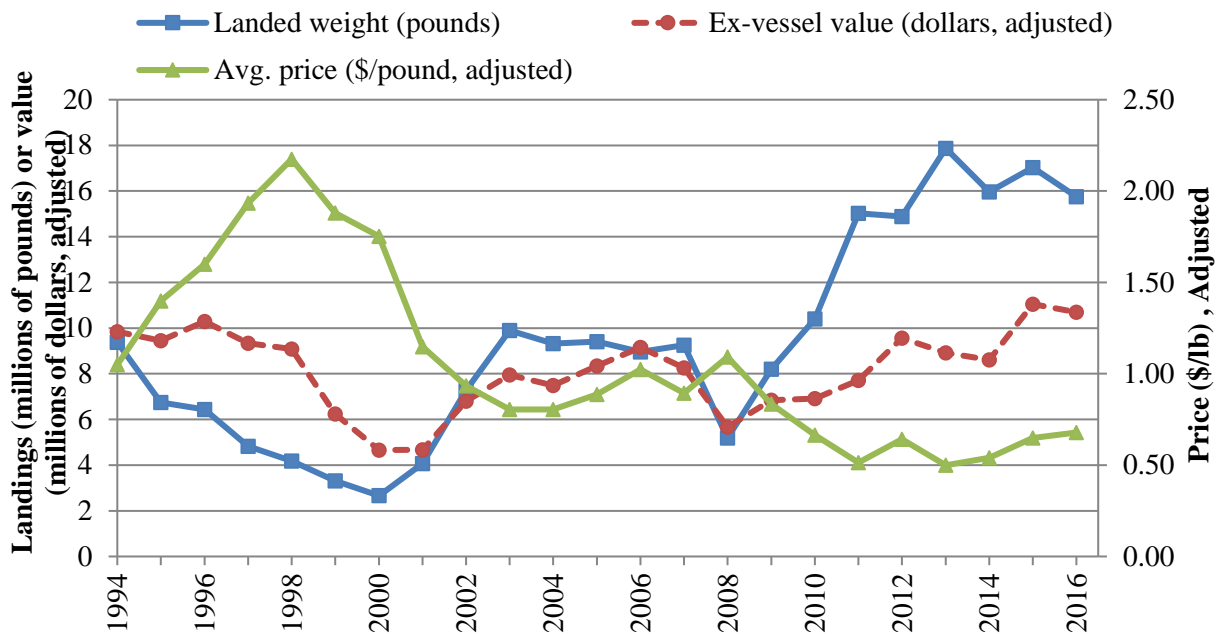
There is a strong relationship between the amount of scup landed in a given year and the average price per pound. As landings increase, price generally decreases (Figure 6). The highest average



price per pound over the past two decades was \$1.46 (\$2.17 in 2016 dollars) and occurred in 1998. The lowest mean price per pound was \$0.55 (\$0.50 in 2016 dollars) and occurred in 2013.<sup>5</sup>

Over 173 federally-permitted dealers from Maine through North Carolina purchased scup in 2016. More dealers in New York purchased scup than in any other state (Table 6).<sup>5</sup>

At least 100,000 pounds of scup were landed by commercial fishermen in 15 ports in 6 states in 2016. These ports accounted for approximately 91% of all 2016 commercial scup landings. Point Judith, Rhode Island was the leading port, both in terms of landings and number of vessels landing scup (Table 5).<sup>5</sup> The ports and communities that are dependent on scup 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/](http://www.mafmc.org/communities/).



**Figure 6:** Landings, ex-vessel value, and price for scup from Maine through North Carolina, 1994-2016. Ex-vessel value and price are adjusted to show real 2016 dollars.<sup>5</sup>

**Table 6:** Number of dealers per state which reported purchases of scup in 2016. C = Confidential.<sup>5</sup>

State	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of Dealers	C	34	33	16	42	23	C	5	10	10

**Table 5:** Ports reporting at least 100,000 pounds of scup landings in 2016, based on NMFS dealer data. C = Confidential.<sup>5</sup>

Port	Scup Landings (lb)	% of total commercial scup landings	Number of vessels
Point Judith, RI	6,071,423	39%	126
Montauk, NY	2,758,235	18%	81
Point Pleasant, NJ	1,806,669	11%	31
New Bedford, MA	1,002,883	6%	75
New London, CT	509,365	3%	8
Belford, NJ	375,119	2%	21
Hampton, VA	354,778	2%	37
Mattituck, NY	309,400	2%	4
Stonington, CT	302,562	2%	20
Little Compton, CT	260,117	2%	14
Newport, RI	241,653	2%	10
Hyannis, MA	170,193	1%	10
Hampton Bay, NY	124,939	1%	32
Ammagansett, NY	C	C	C
Cape May, NJ	107,053	1%	23

## 5. Recreational Fishery Regulations and Performance

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 7). 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 (Table 8).

Recreational data for 2004 and later are available from the Marine Recreational Information Program (MRIP). Data prior to 2004 were generated by the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings of scup peaked in 1986, when an estimated 30.87 million scup were caught and 24.8 million scup were landed by recreational fishermen from Maine through North Carolina. Recreational catch was lowest in 1998 when an estimated 2.7 million scup were caught and 1.2 million scup were landed (Table 9). Recreational anglers from Maine through North Carolina caught an estimated 12.1 million scup and landed 3.8 million scup (about 4.3 million pounds) in 2016.<sup>6</sup>

Vessels carrying passengers for hire in federal waters must obtain a federal party/charter permit. In 2016, 690 vessels held scup federal party/charter permits. Many of these vessels also held party/charter permits for summer flounder and black sea bass.<sup>7</sup>

**Table 7:** Federal recreational measures for scup, 2005-2017.

<b>Regulation</b>	<b>2005-2007</b>	<b>2008-2009</b>	<b>2010-2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015-2017</b>
<b>Minimum size (total length)</b>	10 in.	10.5 in.	10.5 in.	10.5 in.	10 in.	9 in.	9 in.
<b>Possession limit</b>	50	15	10	20	30	30	50
<b>Open season</b>	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 8:** Scup recreational fishing measures in state waters for 2015-2016.

<b>State</b>	<b>Minimum Size (inches)</b>	<b>Possession Limit</b>	<b>Open Season</b>
Massachusetts	10	30 fish	May 1-December 31
MA (for-hire)	10	45 fish	May 1-June 30
		30 fish	July 1-December 31
Rhode Island (angler)	10	30 fish	May 1-December 31
RI Shore Program ( 7 designated shore sites)	9		
RI (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
CT Shore Program (45 designed shore sites)	9		
CT (party/charter)	10	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1-October 31
New York (private and shore)	10	30 fish	May 1-December 31
NY (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	30 fish	January 1-December 31
North Carolina, North of Cape Hatteras	8	50 fish	January 1-December 31

**Table 9:** Estimated recreational catch and landings of scup, Maine - North Carolina, 1981 - 2016.<sup>6</sup>

<b>Year</b>	<b>Recreational catch (number of fish)</b>	<b>Recreational landings (numbers of fish)</b>	<b>Recreational landings (pounds)</b>
1981	10,375,756	9,083,708	5,811,517
1982	7,181,330	6,454,108	5,204,573
1983	10,155,282	8,836,563	6,252,085
1984	7,774,899	6,057,310	2,415,923
1985	13,860,681	10,810,048	6,092,991
1986	30,872,032	24,823,042	11,604,773
1987	12,377,147	9,915,988	6,196,973
1988	7,539,176	6,062,309	4,267,018
1989	11,393,801	9,176,431	5,557,166
1990	10,172,388	8,042,990	4,140,064
1991	16,851,913	13,279,092	8,087,391
1992	10,077,076	7,764,179	4,412,054
1993	7,076,008	5,663,018	3,197,197
1994	5,650,280	4,270,240	2,627,771
1995	3,766,783	2,419,031	1,343,621
1996	4,676,120	2,972,207	2,156,336
1997	3,070,410	1,916,434	1,197,548
1998	2,670,103	1,211,136	874,819
1999	4,636,039	3,250,650	1,886,113
2000	11,283,712	7,243,949	5,443,128
2001	9,925,282	5,098,820	4,262,432
2002	7,580,326	3,646,840	3,623,631
2003	14,661,275	9,452,312	8,484,139
2004	13,426,173	7,153,535	7,276,708
2005	7,037,689	2,589,430	2,692,156
2006	9,614,649	3,434,137	3,716,155
2007	10,050,740	4,747,826	4,563,858
2008	10,705,806	3,486,942	3,788,048
2009	8,704,093	3,134,057	3,230,022
2010	11,147,369	5,148,269	5,969,366
2011	6,473,335	3,056,212	3,665,030
2012	8,828,600	3,668,490	4,171,549
2013	10,018,648	4,984,345	5,371,531
2014	8,988,623	4,125,316	4,427,679
2015	8,393,026	4,048,113	4,409,182
2016	12,097,506	3,838,524	4,259,356

Most recreational scup catch occurs in state waters during the warmer months when the fish migrate inshore. Between 2007 and 2016, about 97% of recreational scup landings (in numbers of fish) occurred in state waters and about 3% occurred in federal waters (Table 10). New York, Massachusetts, Connecticut, Rhode Island, and New Jersey accounted for 99.5% of recreational scup harvest in 2016 (Table 11).

About 59% of recreational scup landings (in numbers of fish) in 2016 were from anglers who fished on private or rental boats. About 22% were from anglers fishing on party or charter boats, and about 19% were from anglers fishing from shore (Table 12).<sup>6</sup>

**Table 10:** Estimated percent of scup (in numbers of fish) caught by recreational fishermen in state and federal waters, Maine - North Carolina, 2007 - 2016.<sup>6</sup>

<b>Year</b>	<b>State waters</b>	<b>Federal waters</b>
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	95.2%	4.8%
2014	95.9%	4.1%
2015	97.5%	2.5%
2016	94.3%	5.7%
<b>2007-2016 average</b>	<b>96.7%</b>	<b>3.3%</b>
<b>2014-2016 average</b>	<b>95.9%</b>	<b>4.1%</b>

**Table 11:** Total recreational scup landings by state in 2015 and 2016. Percentages were calculated based on numbers of fish.<sup>6</sup>

<b>State</b>	<b>2015</b>	<b>2016</b>
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	29.6%	22.6%
Rhode Island	13.4%	15.0%
Connecticut	11.3%	21.5%
New York	44.9%	32.7%
New Jersey	0.8%	7.7%
Delaware	0.0%	0.0%
Maryland	0.0%	0.0%
Virginia	0.0%	0.5%
North Carolina	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

**Table 12:** Scup landings by recreational fishing mode, Maine - North Carolina, 1981 - 2016.<sup>6</sup>

<b>Year</b>	<b>Shore</b>	<b>Party/charter</b>	<b>Private/rental</b>	<b>Total (numbers of fish)</b>
1981	8%	12%	80%	9,083,708
1982	13%	22%	65%	6,454,108
1983	25%	34%	41%	8,836,563
1984	21%	4%	75%	6,057,310
1985	10%	3%	87%	10,810,048
1986	8%	13%	79%	24,823,042
1987	5%	6%	89%	9,915,988
1988	12%	19%	70%	6,062,309
1989	10%	11%	79%	9,176,431
1990	5%	16%	78%	8,042,990
1991	12%	17%	71%	13,279,092
1992	13%	13%	74%	7,764,179
1993	5%	31%	64%	5,663,018
1994	5%	21%	73%	4,270,240
1995	9%	35%	56%	2,419,031
1996	4%	15%	81%	2,972,207
1997	7%	24%	69%	1,916,434
1998	10%	14%	77%	1,211,136
1999	6%	25%	69%	3,250,650
2000	8%	16%	77%	7,243,949
2001	15%	15%	70%	5,098,820
2002	14%	36%	50%	3,646,840
2003	9%	14%	77%	9,452,312
2004	11%	21%	68%	7,153,535
2005	15%	6%	78%	2,589,430
2006	9%	18%	73%	3,434,137
2007	7%	11%	82%	4,747,826
2008	11%	25%	64%	3,486,942
2009	7%	36%	57%	3,134,057
2010	7%	25%	68%	5,148,269
2011	10%	15%	75%	3,056,212
2012	7%	31%	61%	3,668,490
2013	18%	33%	48%	4,984,345
2014	12%	24%	64%	4,125,316
2015	12%	17%	71%	4,048,113
2016	19%	22%	59%	3,838,524
<b>1981-2016 average</b>	<b>11%</b>	<b>19%</b>	<b>70%</b>	
<b>2014-2016 average</b>	<b>14%</b>	<b>21%</b>	<b>65%</b>	

## References

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