



Scup Fishery Information Document

June 2018

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for scup with an emphasis on 2017, 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. Scup essential fish habitat includes demersal waters, areas with sandy or muddy bottoms, mussel beds, and sea grass beds from the Gulf of Maine through Cape Hatteras, North Carolina. Scup undertake extensive seasonal migrations between coastal and offshore waters. They are found in estuaries and coastal waters during the spring and summer. In the fall and winter, they move offshore and to the south, to outer continental shelf waters south off New Jersey. Scup spawn once annually over weedy or sandy areas, mostly off southern New England. Spawning takes place from May through August and usually peaks in June and July.¹

About 50% of scup are sexually mature at two years of age and about 17 cm (about 7 inches) total length. Nearly all scup older than three years of age are sexually mature. Scup reach a maximum age of at least 14 years. They may live as long as 20 years; however, few scup older than 7 years are caught in the Mid-Atlantic.^{2,3}

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

2. Status of the Stock

The scup stock was designated as overfished in 2005, requiring development of a rebuilding plan. The stock was 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.²

The most recent benchmark stock assessment took place in 2015. An update to that assessment using commercial and recreational fishery data and fishery-independent survey data through 2016 indicated that the stock was not overfished and overfishing was not occurring. Spawning stock biomass (SSB) was estimated to be 396.6 million pounds in 2016, about 2.1 times the target SSB level (Figures 1 and 2).^{3,4}

According to data through 2017, the NEFSC bottom trawl survey biomass indices for scup in fall 2015 and spring 2016 were record highs for the time series (i.e. 1963 - present for the fall survey and 1968 through the present for the spring survey). Both seasonal indices decreased after 2016. Several state fisheries-independent surveys show similar trends.⁵

Fishing mortality was estimated to be 0.139 in 2016, 37% below the fishing mortality reference point (Figure 1). The 2015 year class (i.e. those scup spawned in 2015) was estimated to be 252 million fish, about 2.1 times the average recruitment from 1984 to 2016. The 2016 year class is estimated to be 65 million fish, about 47% below the average (Figure 2).⁴

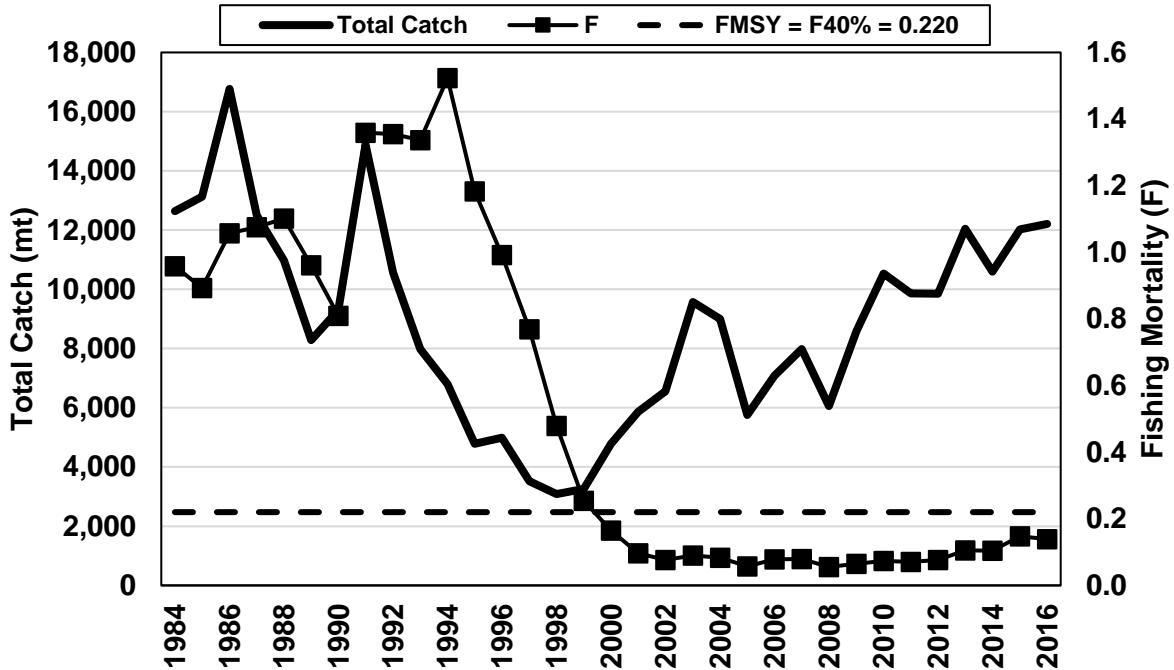


Figure 1: Total fishery catch and fishing mortality rate (F) for fully-selected age 3 scup, 1984-2016. The horizontal dashed line is the fishing mortality reference point from the 2015 benchmark stock assessment. Overfishing is occurring when the fishing mortality rate exceeds this threshold.⁴

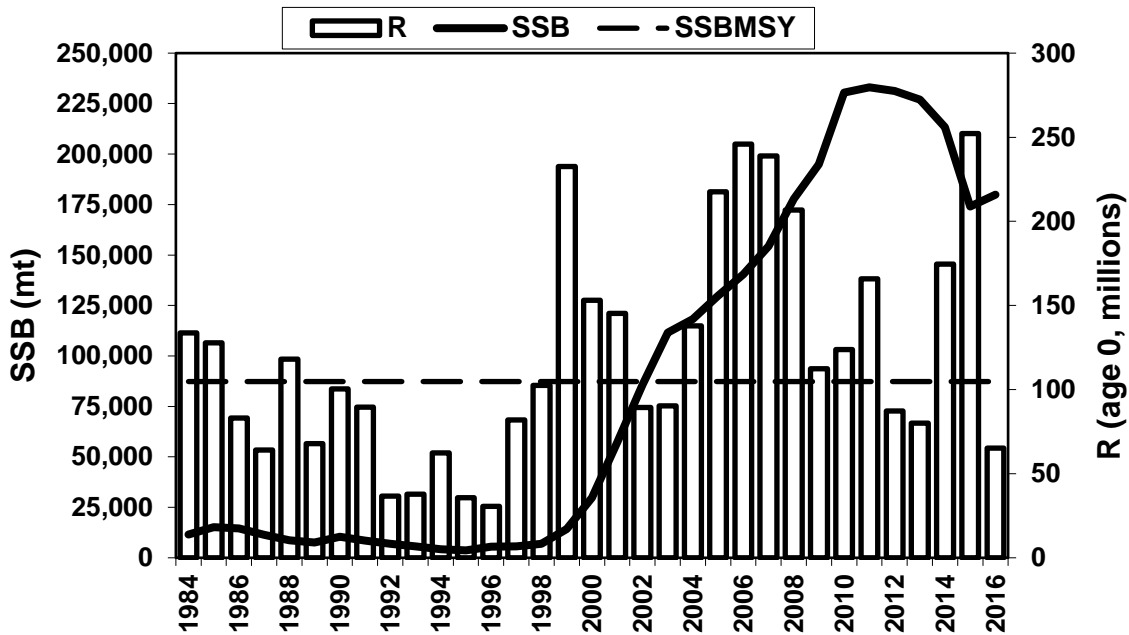


Figure 2: Scup spawning stock biomass and Recruitment, 1984-2016.⁴

3. Management System and Overall Fishery Performance

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) cooperatively develop fishery regulations for scup off the east coast of the United States. The National Marine Fisheries Service (NMFS) serves as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state waters (0-3 miles offshore) and federal waters (3-200 miles offshore, 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. Amendment 8 established gear restrictions, reporting requirements, commercial quotas, a moratorium on new commercial scup permits, recreational possession limits, and minimum size restrictions for scup fisheries. The Council has made several adjustments to the FMP since 1996. The FMP and subsequent amendments and framework adjustments can be found at: www.mafmc.org/sf-s-bsb/.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for scup. The annual ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the allocation percentages prescribed in the FMP (i.e. 78% commercial, 22% recreational). Both ABCs and ACLs are catch-based limits, meaning they account for both landings and discards. Projected discards are subtracted to determine the commercial quota and recreational harvest limit (RHL), which are landings-based limits. Table 1 shows scup catch and landings limits from 2007 through 2018, as well as commercial and recreational landings through 2016.

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 2017, about 20.87 million pounds of scup were landed by commercial and recreational fishermen (Figure 3).^{6,7}

Table 1: Summary of scup catch limits, landings limits, and landings, 2007 through 2018. Values are in millions of pounds unless otherwise noted.

Measure	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^a
ABC	--	--	11.70	17.09	51.70	40.88	38.71	35.99	33.77	31.11	28.40	39.14	36.43
TAC ^b	13.97	9.90	15.54	17.09	31.92	--	--	--	--	--	--	--	--
Commercial ACL	--	--	--	--	--	31.89	30.19	28.07	26.35	24.26	22.15	30.53	28.42
Commercial ACT ^c	--	--	--	--	--	31.89	30.19	28.07	26.35	24.26	22.15	28.42	28.42
Commercial quota ^d	8.90	5.24	8.37	10.68	20.36	27.91	23.53	21.95	21.23	20.47	18.38	23.98	23.98
Commercial landings	9.25	5.19	8.20	10.40	15.03	14.88	17.87	15.96	17.03	15.76	15.44	--	--
% of commercial quota landed	104%	99%	98%	97%	74%	53%	76%	72%	80%	77%	84%	--	--
Recreational ACL	--	--	--	--	--	8.99	8.52	7.92	7.43	6.84	6.25	8.61	8.01
Recreational ACT ^c	--	--	--	--	--	8.99	8.52	7.92	7.43	6.84	6.25	8.01	8.01
RHL ^d	2.74	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.80	6.09	5.50	7.37	7.37
Recreational landings	4.56	3.79	3.23	5.97	3.67	4.17	5.37	4.43	4.41	4.26	5.42	--	--
% of RHL harvested	166%	207%	125%	198%	64%	49%	71%	63%	65%	70%	98%	--	--

^a2019 measures will be reviewed by the Council in 2018 and may be revised.

^bPrior to implementation of the 2011 Omnibus ACLs and AMs Amendment, the Council specified a Total Allowable Catch (TAC). After implementation of this amendment, the Council specified ABCs instead of TACs. Both terms refer to the total catch limit in a given year. The difference between the TAC and the ABC in 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.

^cThe ACT is the annual catch target and is set equal to or less than the ACL to account for management uncertainty.

^dCommercial quotas and RHLs reflect the removal of projected discards from the sector-specific ACLs. For 2006-2014, these limits were also adjusted for Research Set Aside. This program was suspended in 2014.

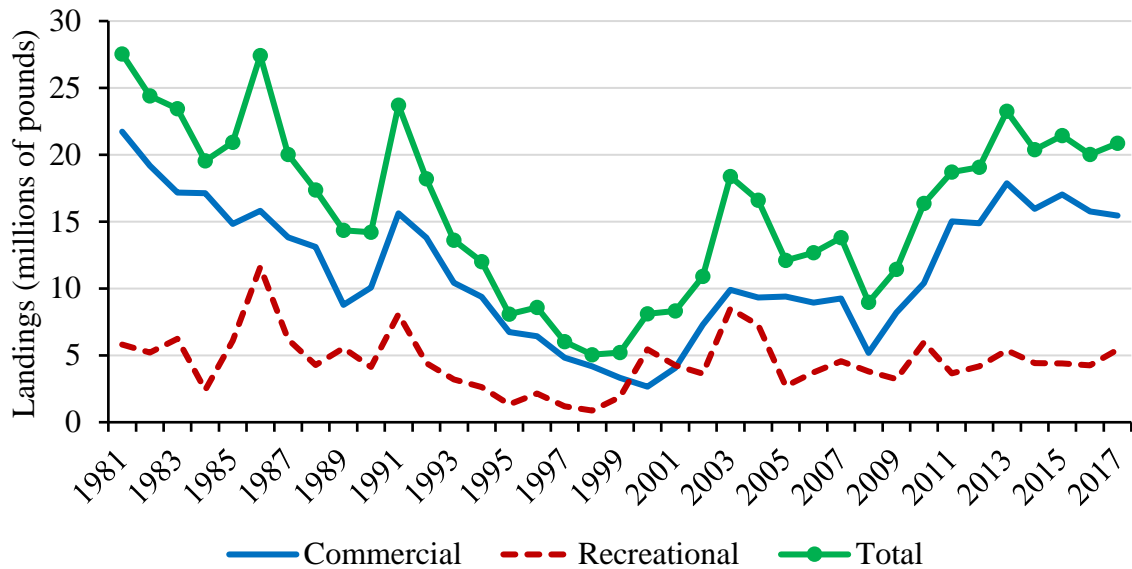


Figure 3: Commercial and recreational scup landings, Maine - North Carolina, 1981-2017.^{5,6}

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 2017, commercial fishermen landed 15.44 million pounds of scup, about 84% of the commercial quota.⁶

Commercial discards have been increasing since 2014. About 10.47 million pounds of scup were discarded in commercial fisheries in 2017. This is the highest amount of discards since 1981 and represents about a 71% increase from 2016. This resulted in the 2017 commercial ACL being exceeded by about 17% and the ABC being exceeded by about 11%, despite the quota underage. This increase in discards was likely mainly due to the large 2015 year class, which appears to be the largest year class since at least 1984. In 2017, these scup were very abundant, but mostly too small to be landed in the commercial fishery due to the commercial minimum fish size of 9 inches total length.⁵

The commercial scup fishery operates year-round, taking place mostly in federal waters during the winter and mostly in state waters during the summer. A coast-wide commercial quota is allocated between three quota periods, known as the winter I, summer, and winter II quota periods. These seasonal quota periods were established to ensure that both smaller day boats, which typically operate near shore in the summer months, and larger vessels operating offshore in the winter months can land scup before the annual quota is reached. The dates of the summer and winter II periods were modified in 2018 (Table 2).

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 2017 due to quota rollover from the winter I period. During the summer period, various state-specific possession limits are in effect.

The commercial scup fishery in federal waters is predominantly a bottom otter trawl fishery. In 2017, about 97% of the commercial scup landings (by weight) reported on vessel trip reports (VTRs) were caught with bottom otter trawls. Pots and sink gillnets each accounted for about 1% of landings. All other gear types each accounted for less than 1% of the 2017 commercial scup landings.⁹

Trawl vessels may not possess 1,000 pounds or more of scup during October - April, or 200 pounds or more during May - September, unless they use a minimum mesh size of 5-inch diamond mesh, applied throughout the codend for at least 75 continuous meshes forward of the terminus of the net. Pots and traps for scup are required to have degradable hinges and escape vents that are either circular with a 3.1 inch minimum diameter or square with a minimum length of 2.25 inches on the side.

VTR data suggest that NMFS statistical areas 537, 539, 611, 613, and 616 were responsible for the largest percentage of commercial scup catch in 2017. Statistical area 539, off Rhode Island, had the highest number of trips which caught scup (Table 4, Figure 4).⁹

Over the past two decades, total scup ex-vessel revenue ranged from a low of \$4.66 million in 2000 to a high of \$11.53 million in 2015. In 2017, 15.44 million pounds of scup were landed by commercial fishermen from Maine through North Carolina. Total ex-vessel value in 2017 was \$9.60 million, resulting in an average price per pound of \$0.62. All revenue and price values were adjusted to 2017 dollars to account for inflation.⁶

In general, the price of scup tends to be lower when landings are higher, and vice versa (Figure 6). This relationship is not linear and many other factors besides landings also influence price. The highest average price per pound over the past two decades was \$1.46 (\$2.27 in 2017 dollars) and occurred in 1998. The lowest mean price per pound was \$0.55 (\$0.52 in 2017 dollars) and occurred in 2013.⁶

Over 171 federally-permitted dealers from Maine through North Carolina purchased scup in 2017. More dealers in New York purchased scup than in any other state (Table 5).⁶

At least 100,000 pounds of scup were landed by commercial fishermen in 17 ports in 7 states in 2017. These ports accounted for approximately 92% of all 2017 commercial scup landings. Point Judith, Rhode Island was the leading port, both in terms of landings and number of vessels landing scup (Table 6).⁶ The ports and communities with the greatest participation in the scup fishery are described in Amendment 13 to the FMP (available at <http://www.mafmc.org/sf-s-bsb/>). Detailed

community profiles developed by the Northeast Fisheries Science Center's Social Science Branch can be found at www.mafmc.org/communities/.

A moratorium permit is required to fish commercially for scup. In 2017, 634 vessels held commercial moratorium permits for scup.¹⁰

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

Quota Period	Dates	% of commercial quota allocated	Possession limit
Winter I	January 1 – April 30	45.11%	50,000 pounds, until 80% of winter I allocation is reached, then reduced to 1,000 pounds.
Summer	May 1 – September 30*	38.95%	State-specific
Winter II	October 1 – December 31*	15.94%	12,000 pounds. If winter I quota is not reached, the winter II possession limit increases by 1,500 pounds for every 500,000 pounds of scup not landed during winter I.

*Prior to 2018, the summer period was May 1 - October 31 and the winter II period was November 1 - December 31, with the same allocations as shown above.

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

State	Share of summer quota
Maine	0.1210%
Massachusetts	21.5853%
Rhode Island	56.1894%
Connecticut	3.1537%
New York	15.8232%
New Jersey	2.9164%
Maryland	0.0119%
Virginia	0.1650%
North Carolina	0.0249%
Total	99.9908%

Table 4: Statistical areas which accounted for at least 5% of the total commercial scup catch (by weight) in 2017, with associated number of trips.⁹

Statistical Area	Percent of 2017 Commercial Scup Catch	Number of Trips
537	40%	1,426
539	14%	2,506
616	12%	542
613	12%	1,126
611	9%	1,870

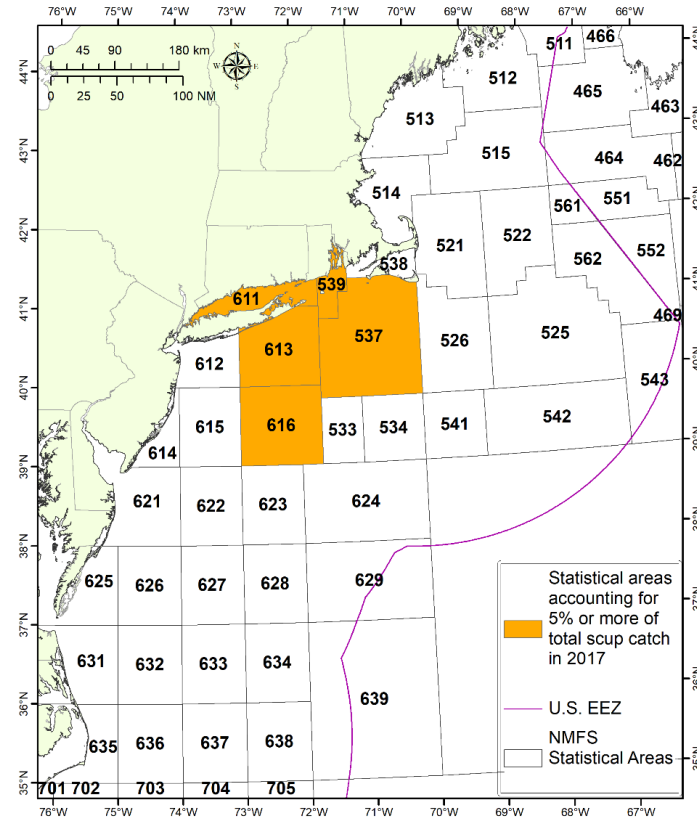


Figure 4: NMFS Statistical Areas, highlighting those which accounted for at least 5% of the commercial scup catch in 2017.⁹

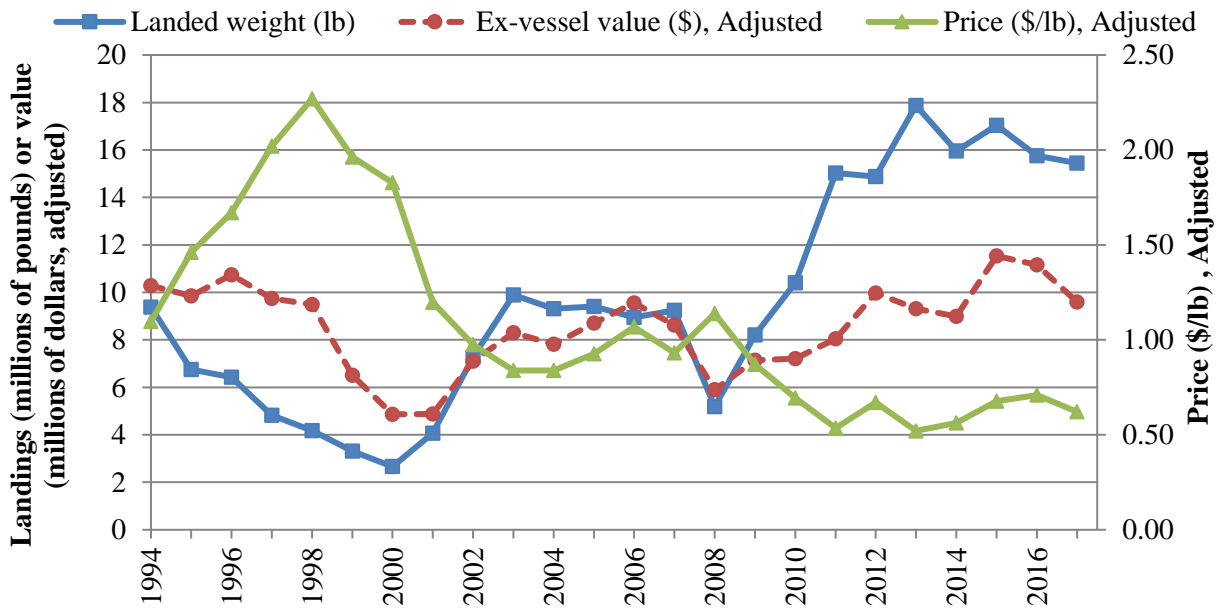


Figure 6: Landings, ex-vessel value, and price for scup from Maine through North Carolina, 1994-2017. Ex-vessel value and price are adjusted to show real 2017 dollars.⁶

Table 5: Number of dealers per state which reported purchases of scup in 2017. C = Confidential.⁶

State	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of Dealers	C	37	28	15	39	21	C	4	13	14

Table 6: Ports reporting at least 100,000 pounds of scup landings in 2017, based on NMFS dealer data. C = Confidential.⁶

Port	Scup Landings (lb)	% of total commercial scup landings	Number of vessels
POINT JUDITH, RI	5,279,877	34%	134
MONTAUK, NY	2,655,349	17%	83
NEW BEDFORD, MA	2,067,044	13%	69
PT. PLEASANT, NJ	1,414,580	9%	38
NEW LONDON, CT	438,687	3%	6
HAMPTON, VA	360,494	2%	42
LITTLE COMPTON, RI	281,527	2%	12
BELFORD, NJ	270,689	2%	19
MATTITUCK, NY	265,314	2%	4
STONINGTON, CT	213,465	1%	17
HAMPTON BAYS, NY	200,614	1%	37
NEWPORT, RI	175,828	1%	14
HYANNIS, MA	163,783	1%	13
BEAUFORT, NC	149,994	1%	31
CAPE MAY, NJ	137,123	1%	21
TIVERTON, RI	100,521	1%	4
SHINNECOCK, NY	100,005	1%	7

Scup Gear Restricted Areas

Two scup gear restricted areas (GRAs) were first implemented in 2000 with the goal of reducing scup discards in small-mesh fisheries. 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 5). The GRAs are thought to have contributed to the recovery of the scup population in the mid- to late-2000s.⁸ The Council modified the boundaries of the GRAs several times since they were first implemented. The most recent modification, effective as of January 1, 2017, reduced the size of the southern GRA to restore access to certain historical winter squid fishing areas.

As previously stated, commercial scup discards have been increasing since 2014 and increased by 71% between 2016 and 2017, likely due to the large 2015 year class.⁵ The increase between 2016 and 2017 may also be due to the recent modifications to the southern scup GRA. Further analysis is needed to evaluate the impact of the GRA modification on commercial scup discards in 2017.

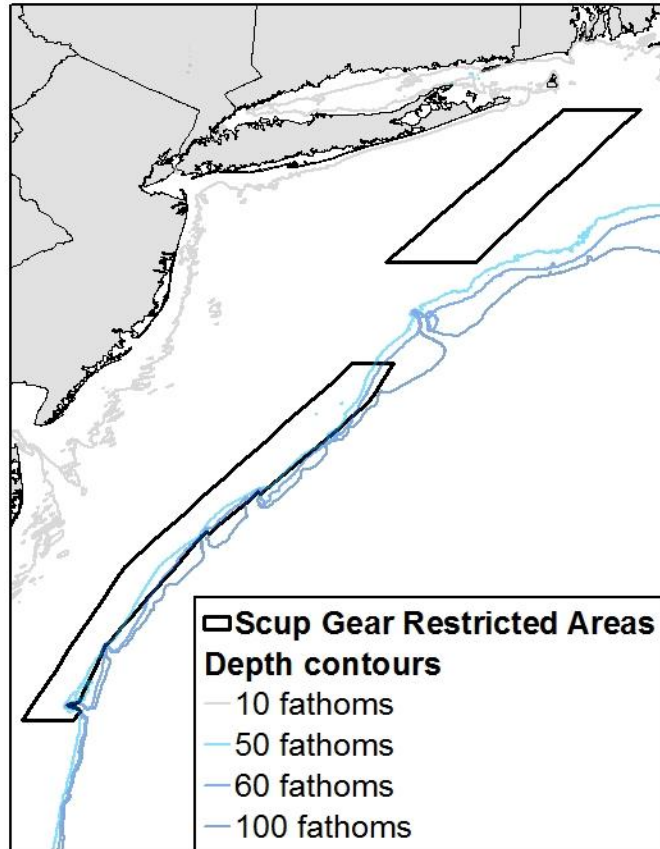


Figure 5: The Scup Gear Restricted Areas.

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). These measures have been unchanged since 2015.

The Commission applies a regional management approach to recreational scup fisheries in state waters, where New York, Rhode Island, Connecticut, and Massachusetts develop regulations intended to achieve 97% of the recreational harvest limit. The minimum fish size, possession limit, and open season for recreational scup fisheries in state waters vary by state. State waters measures remained unchanged from 2015 through 2017 (Table 8). The states of Massachusetts through New York reduced their recreational minimum size limits for 2018. New Jersey extended their recreational fishing season to the full year. All other state waters measures remained unchanged from 2017 to 2018 (Table 9).

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 10). Recreational anglers from Maine through North Carolina caught an estimated 14.53 million scup and landed 5.50 million scup (about 5.42 million pounds) in 2017.⁷

Vessels carrying passengers for hire in federal waters must obtain a federal party/charter permit. In 2017, 752 vessels held scup federal party/charter permits. Many of these vessels also held party/charter permits for summer flounder and black sea bass.¹⁰

Most recreational scup catch occurs in state waters during the warmer months when the fish migrate inshore. Between 2008 and 2017, about 97% of recreational scup landings (in numbers of fish) occurred in state waters and about 3% occurred in federal waters (Table 11). New York, Massachusetts, Connecticut, Rhode Island, and New Jersey accounted for over 99.9% of recreational scup harvest in 2017 (Table 12).⁷

About 60% of recreational scup landings (in numbers of fish) in 2017 were from anglers who fished on private or rental boats. About 29% were from anglers fishing on party or charter boats, and about 12% were from anglers fishing from shore (Table 13).⁷

Table 7: Federal recreational measures for scup, 2005-2018.

Regulation	2005-2007	2008-2009	2010-2011	2012	2013	2014	2015-2018
Minimum size (total length)	10 in.	10.5 in.	10.5 in.	10.5 in.	10 in.	9 in.	9 in.
Possession limit	50	15	10	20	30	30	50
Open season	Jan 1–Feb 28 & Sept 18 – Nov 30	Jan 1–Feb 28 & Oct 1–Oct 31	Jun 6 – Sept 26	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31	Jan 1 – Dec 31

Table 8: Scup recreational fishing measures in state waters for 2015-2017.

State	Minimum Size (inches)	Possession Limit	Open Season
MA	10	30 fish	May 1-December 31
MA (party/charter)	10	45 fish	May 1-June 30
		30 fish	July 1-December 31
RI (private and shore)	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
CT (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
NY (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
NJ	9	50 fish	January 1-February 28; July 1-December 31
DE	8	50 fish	January 1-December 31
MD	8	50 fish	January 1-December 31
VA	8	30 fish	January 1-December 31
NC, North of Cape Hatteras	8	50 fish	January 1-December 31

Table 9: Scup recreational fishing measures in state waters for 2018.

State	Minimum Size (inches)	Possession Limit	Open Season
MA	9	30 fish; 150 fish/vessel with 5+ anglers on board	May 1-December 31
MA (party/charter)	9	45 fish	May 1-June 30
		30 fish	July 1-December 31
RI (private & shore)	9	30 fish	May 1-December 31
RI shore program (7 designated shore sites)	8		
RI (party/charter)	9	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1-October 31
CT (private & shore)	9	30 fish	May 1-December 31
CT shore program (46 designated shore sites)	8		
CT (party/charter)	9	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1-October 31
NY (private & shore)	9	30 fish	May 1-December 31
NY (party/charter)	9	30 fish	May 1-August 31; November 1-December 31
		45 fish	September 1- October 31
NJ	9	50 fish	January 1- December 31
DE	8	50 fish	January 1-December 31
MD	8	50 fish	January 1-December 31
VA	8	30 fish	January 1-December 31
NC, North of Cape Hatteras (N of 35° 15'N)	8	50 fish	January 1-December 31

Table 10: Estimated recreational catch and harvest of scup, Maine - North Carolina, 1981 - 2017.⁶

Year	Recreational catch (millions of fish)	Recreational harvest (millions of fish)	Recreational harvest (millions of pounds)	% of catch retained
1981	10.38	9.08	5.81	88%
1982	7.18	6.45	5.20	90%
1983	10.16	8.84	6.25	87%
1984	7.77	6.06	2.42	78%
1985	13.86	10.81	6.09	78%
1986	30.87	24.82	11.60	80%
1987	12.38	9.92	6.20	80%
1988	7.54	6.06	4.27	80%
1989	11.39	9.18	5.56	81%
1990	10.17	8.04	4.14	79%
1991	16.85	13.28	8.09	79%
1992	10.08	7.76	4.41	77%
1993	7.08	5.66	3.20	80%
1994	5.65	4.27	2.63	76%
1995	3.77	2.42	1.34	64%
1996	4.68	2.97	2.16	64%
1997	3.07	1.92	1.20	62%
1998	2.67	1.21	0.87	45%
1999	4.64	3.25	1.89	70%
2000	11.28	7.24	5.44	64%
2001	9.93	5.10	4.26	51%
2002	7.58	3.65	3.62	48%
2003	14.66	9.45	8.48	64%
2004	13.43	7.15	7.28	53%
2005	7.04	2.59	2.69	37%
2006	9.61	3.43	3.72	36%
2007	10.05	4.75	4.56	47%
2008	10.71	3.49	3.79	33%
2009	8.70	3.13	3.23	36%
2010	11.15	5.15	5.97	46%
2011	6.47	3.06	3.67	47%
2012	8.83	3.67	4.17	42%
2013	10.02	4.98	5.37	50%
2014	8.99	4.13	4.43	46%
2015	8.39	4.05	4.41	48%
2016	12.10	3.84	4.26	32%
2017	14.53	5.50	5.42	38%

Table 11: Estimated percent of scup (in numbers of fish) caught by recreational fishermen in state and federal waters, Maine - North Carolina, 2008 - 2017.⁶

Year	State waters	Federal waters
2008	96.7%	3.3%
2009	97.8%	2.2%
2010	95.9%	4.1%
2011	97.8%	2.2%
2012	99.6%	0.4%
2013	96.0%	4.0%
2014	95.4%	4.6%
2015	97.9%	2.1%
2016	93.3%	6.7%
2017	95.4%	4.6%
2008-2017 average	96.6%	3.4%
2015-2017 average	95.5%	4.5%

Table 12: Recreational scup harvest by state in 2016 and 2017. Percentages were calculated based on numbers of fish.⁶

State	2016	2017
Maine	0.0%	0.0%
New Hampshire	0.00%	0.02%
Massachusetts	22.58%	23.64%
Rhode Island	15.04%	9.04%
Connecticut	21.46%	18.82%
New York	32.70%	33.56%
New Jersey	7.71%	14.91%
Delaware	0.0%	0.0%
Maryland	0.0%	0.0%
Virginia	0.50%	0.00%
North Carolina	0.00%	0.01%
Total	100.0%	100.0%

Table 13: Scup harvest by recreational fishing mode, Maine - North Carolina, 1981 - 2017, based on numbers of fish. Some percentages do not sum to 100% due to rounding. ⁶

Year	Shore	Party/charter	Private/rental	Total
1981	9%	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%	22%	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
2017	12%	29%	60%	5,500,291
2015-2017 average	14%	22%	63%	4,462,309

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