Scup Advisory Panel Information Document[1]

June 2014

Management System

The Fishery Management Plan (FMP) for scup has been in place since 1996 when it was incorporated into the Summer Flounder FMP. The FMP established the management unit for scup (*Stenotomus chrysops*) as the U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina northward to the U.S.-Canadian border, and established measures to ensure effective management of the scup resource. There are two management entities that work cooperatively to develop fishery regulations for scup: the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Council (MAFMC), in conjunction with the National Marine Fisheries Service (NMFS) as the federal implementation and enforcement entity. The cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and federal waters (3-200 miles offshore). The commercial and recreational fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. The scup stock was previously under a stock rebuilding strategy and was declared rebuilt in 2009. The FMP, including subsequent Amendments and Frameworks, is available on the Council website at: http://www.mafmc.org/sf-s-bsb/.

Basic Biology

Information on scup life history and habitat requirements can be found in the document titled, "Essential Fish Habitat Source Document: Scup, *Stenotomus chrysops*, Life History and Habitat Characteristics" (Steimle et al. 1999), and is summarized here. An electronic version is available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/.

Scup is a schooling continental shelf species of the Northwest Atlantic which undertakes extensive migrations between coastal waters and offshore waters. Spawning occurs from May through August, peaking in June. Scup spawn once annually over weedy or sand-covered areas. Juvenile and adult scup are demersal, using inshore waters in the spring and moving offshore in the winter. Essential Fish Habitat (EFH) for scup includes demersal waters, sands, mud, mussel beds, and seagrass beds, from the Gulf of Maine through Cape Hatteras, North Carolina. About 50% of age-2 scup are sexually mature (at about 17 cm total length, or 7 inches), while nearly all scup of age 3 and older are mature (DPSWG 2009). Scup reach a maximum age of at least 14 years, with a likely maximum of 20 years (DPSWG 2009). Adult scup are benthic feeders and forage on a variety of prey, including small crustaceans (including zooplankton), polychaetes,

[1] Data employed in the preparation of this document are from unpublished National Marine Fisheries Service (NMFS) Dealer, Vessel Trip Reports (VTRs), Permit, and Marine Recreational Statistics (MRFSS/MRIP) databases, as of May 2014, unless otherwise noted.

mollusks, small squid, vegetable detritus, insect larvae, hydroids, sand dollars, and small fish. The Northeast Fisheries Science Center (NEFSC) food habits database lists several shark species, skates, silver hake, bluefish, summer flounder, black sea bass, weakfish, lizardfish, king mackerel, and goosefish as predators of scup.

Status of the Stock

A statistical catch at age model (age-structured assessment program; ASAP) model was used in the most recent peer-reviewed and accepted scup assessment (DPSWG 2009; Data Poor Stock Working Group (DPSWG) Peer Review Panel). Reports on "Stock Status," including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, Stock Assessment Review Committee (SARC) panelist reports, and DPSWG reports and peer-review panelist reports are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw.

The last assessment update was completed in July 2012 (Terceiro 2012), and indicated that the scup stock was not overfished and overfishing was not occurring in 2011 relative to the biological reference points. The fishing mortality rate (F) was estimated to be 0.034 in 2011, below the fishing mortality threshold reference point (F_{MSY} = F40% = 0.177) (Figure 1). Spawning Stock Biomass (SSB) was estimated to be 190,424 metric tons (420 million lb) in 2011, above the biomass target reference point (SSB_{MSY} = $SSB_{40\%}$ = 92,044 mt, or 203 million lb). After below average recruitment in 2009 and 2010, the 2011 year class was estimated to be above average at 154 million age 0 fish (Figure 2).

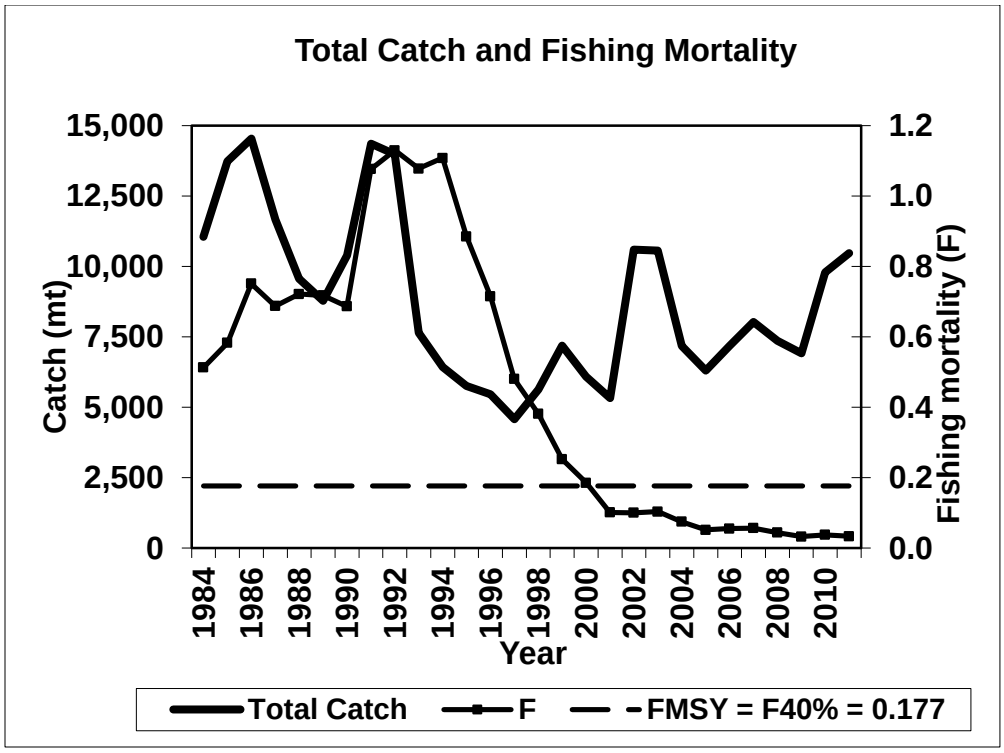

Figure 1: Total fishery catch and fishing mortality rate for scup. $F_{40\%}$ is the proxy for F_{MSY}. Source: Terceiro 2012.

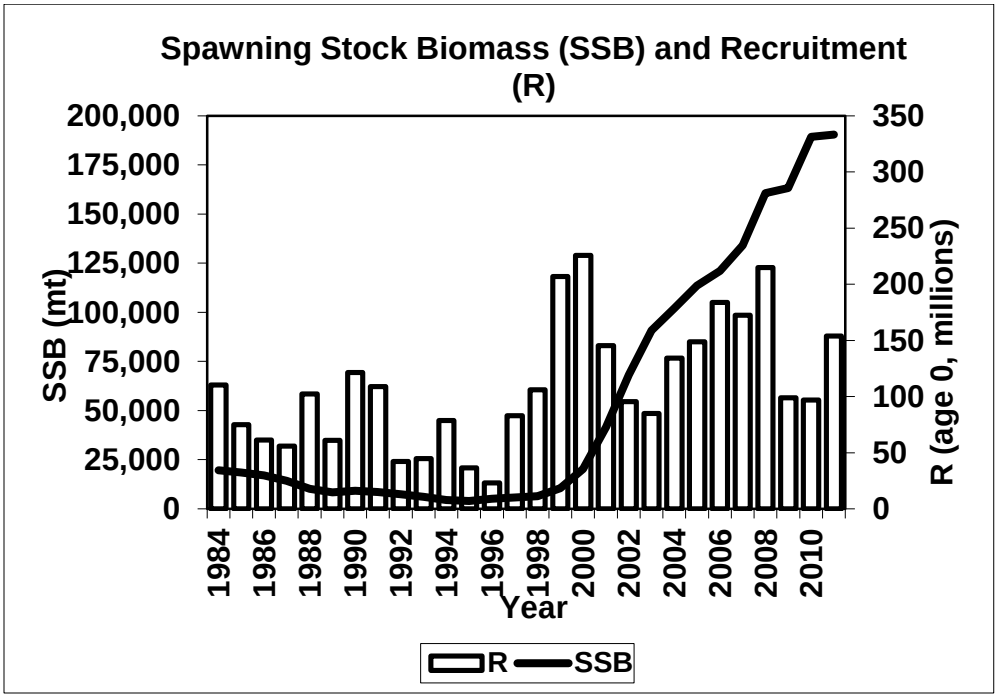

Figure 2: Spawning stock biomass (SSB) and Recruitment (R, age 0) by calendar year. Source: Terceiro 2012.

Fishery Performance

There are significant commercial and recreational fisheries for scup. Scup is managed primarily using output controls (catch and landings limits), with 78 percent of the landings being allocated to the commercial fishery as a commercial quota and 22 percent of landings allocated to the recreational fishery as a recreational harvest limit. The commercial quota is divided into three periods: Winter I (January-April; 45.11 percent), Summer (May-October; 38.95 percent), and Winter II (November-December; 15.94 percent).

Table 1 summarizes the scup management measures for the 2004-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2010, and recreational and commercial annual catch limits (ACLs), with a system of overage accountability for each ACL, were first implemented in 2012. It should be noted that catch limits include both projected landings and discards, whereas the commercial quotas and recreational harvest limits are landings based (i.e., harvest).

Total (commercial and recreational) landings peaked in 1981 at over 27 million lb, and in 2013 were about 23 million lb total (Figure 3).

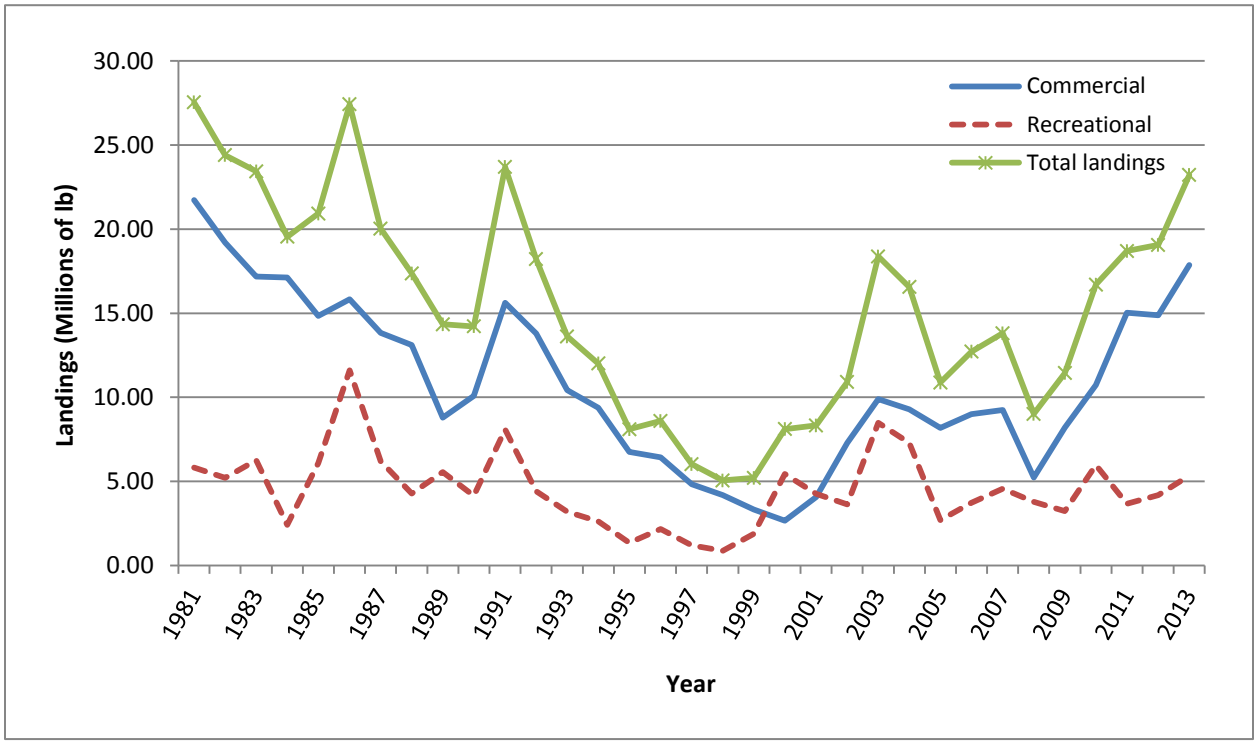

Figure 3: Commercial and Recreational U.S. Scup Landings (millions of pounds) from Maine to North Carolina, 1981-2013.

Table 1: Summary of scup management measures and landings for 2004 through 2015.

Management measures	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015[a]
ABC (m lb)	NA	NA	NA	NA	NA	11.70	17.09	51.70	40.88	38.71	35.99	33.77
TAC (m lb)	18.65	18.65	19.79	13.97	9.90	15.54[b]	17.09	31.92	40.88	38.71	35.99	33.77
Commercial ACL	NA	NA	NA	NA	NA	NA	NA	NA	31.89	30.19	28.07	26.34
Com. quota–adjusted (m lb)[c]	12.34	12.23	11.93	8.90	5.24	8.37	10.68	20.36	27.91	23.53	21.95	20.60
Commercial landings	9.28	8.18	9.00	9.24	5.22	8.20	10.73	15.03	14.88	17.87	NA	NA
Recreational ACL	NA	NA	NA	NA	NA	NA	NA	NA	8.99	8.52	7.92	7.43
Rec. harvest limit-adjusted (m lb)[c]	4.01	3.96	4.15	2.74	1.83	2.59	3.01	5.74	8.45	7.55	7.03	6.60
Recreational landings	4.24	2.54	2.93	3.65	4.04	3.23	5.97	3.67	4.17	5.34	NA	NA
Com. fish size (in)	9	9	9	9	9	9	9	9	9	9	9	9
Com. min. mesh size (in, diamond)	4.5/5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Threshold (lb)	500/100	500/200	500/ 200	500/ 200	500/ 200	500/ 200	500/ 200	500/200	500/200	500/200	500/200	500/200
Recreational measures (minimum fish size (total length), possession limit, and open season)	10-in TL, 50 fish, 1/1-2/28 and 9/7 - 11/30	10-in TL, 50 fish, 1/1-2/28 and 9/18 - 1/30	10-in TL, 50 fish, 1/1-2/28 and 9/18-11/30	10-in TL, 50 fish, 1/1-2/28 and 9/18-11/30	10.5-in TL, 15 fish, 1/1-2/28 and 10/1-10/31	10.5-in TL, 15 fish, 1/1-2/28 and 10/1-10/31	10.5-in TL, 10 fish, 6/6 - 9/26	10.5-in TL, 10 fish, 6/6 - 9/26	10.5-in TL, 15 fish, 5/19-10/14 and 11/1-12/31	10-in TL, 30 fish, 1/1-12/31	9-inch TL, 30 fish, 1/1-12/31	NA

[a]These reflect the regulations currently set for scup in 2015, however, the Council and ASFMC will review these catch limits and management measures in August 2014 and may revise as necessary. [b]In 2009, the SSC recommend an ABC of 11.70 million lb. Based on the Data Poor Stocks Workgroup Panel Report, which was not available to the SSC at the time the recommendation was made, NMFS increased the TAC to 15.54 million lb. [c]Adjusted for RSA and projected discards. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for scup. Permit data indicate that 697 vessels held commercial permits for scup in 2013.

NMFS statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the scup catch in 2013 highlighted. Vessel trip report (VTR) data suggest that statistical area 537 was responsible for the largest percentage of the catch in 2013, with statistical area 611having the majority of trips that caught scup (Table 2).

Table 2: Statistical areas that accounted for at least 5 percent of the scup catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Scup Catch (percent)	Scup Trips (N)
537	27.67	1009
616	16.17	346
539	13.20	1588
611	12.80	1633
613	10.10	1023
615	5.12	96

Based on VTR data for 2013, the bulk of scup landings were taken by bottom otter trawls (97 percent), followed by pots and traps (~1.3 percent). Other gear types each accounted for less than 1 percent of landings. Current commercial regulations for scup require a 9 inch-TL minimum fish size in the commercial fishery, and the following gear requirements for otter trawls: minimum mesh size of 5 inch for the first 75 meshes from the terminus of the net, and for codends constructed with fewer than 75 meshes, a minimum mesh size of 5 inch throughout the net. The threshold level used to trigger the minimum mesh requirements is 500 lbs of scup from November 1 through April 30 and 200 lb or more of scup from May 1 through October 31 (Table 1). In addition, the current regulations require a circular escape vent of 3.1 inch, a square escape vent of 2.25 inch, or a rectangular escape vent of an equivalent size.

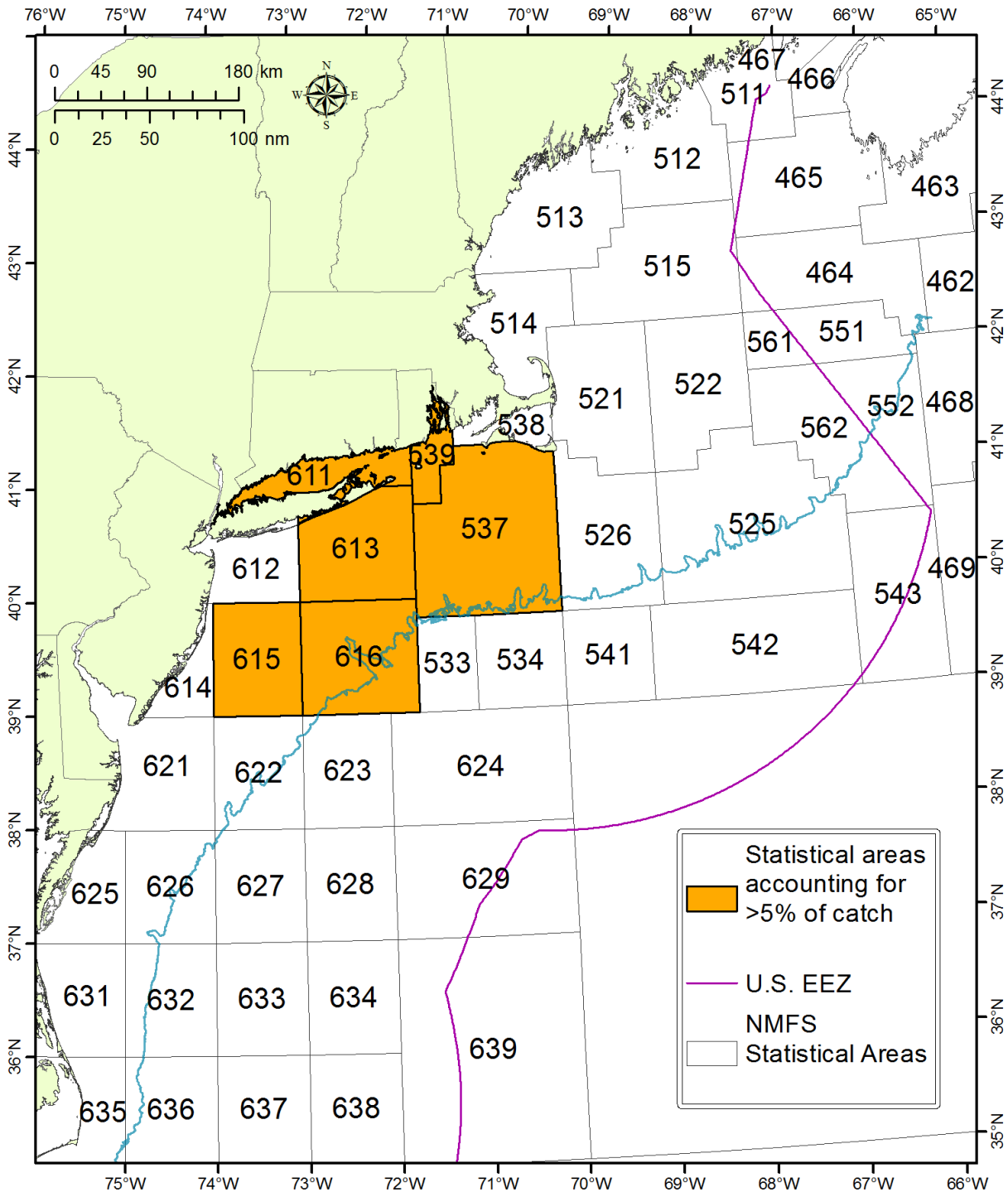

Figure 4: National Marine Fisheries Service Statistical Areas, showing statistical areas accounting for more than 5% of the commercial scup catch in 2013.

Gear restricted areas (GRAs) were implemented by NMFS in 2000 to reduce discards of scup in small mesh fisheries, and became effective on November 1, 2000 for the northern area with an exemption for the herring fishery. The GRAs were modified in size in December 2000 to include areas farther south that were identified as areas of potential scup and *Loligo* interactions. Mackerel and herring small mesh fisheries were exempt from the regulations. In 2005, based on recommendations from the Monitoring Committee, the boundary of the southern GRA was moved 3 longitudinal minutes to the west. A Framework Adjustment to the FMP was initiated in 2013 to analyze additional potential modifications to the boundaries of the GRAs, in particular the eastern boundary of the southern GRA. As of June 2014, the Council has not yet taken action on this Framework.

The Winter I possession limit for 2013 is 50,000 lb, until 80 percent of the landings are reached, at which point the possession limit drops to 1,000 lb. In 2014, the Winter II possession limit has been increased to 12,000 lb (from the previous 2,000 lb limit). This is an initial possession limit, which increases if a transfer of quota occurs between Winter I and Winter II. In that case, the Winter II possession limit should increase at 1,500 lb intervals for every 500,000 lb of scup transferred, i.e., if 1.0 million lb is transferred then the limit would be increased by 3,000 lb to result in a 15,000 lb possession limit. The possession limits were chosen as an appropriate balance between the economic concerns of the industry (i.e., landing enough scup to make the trip economically viable) and the need to ensure the equitable distribution of the quota over the period.

The 50,000 lb possession limit for Winter I was first put in place in 2012, representing an increase from the 2011 Winter I possession limit of 30,000 lb. A threshold analysis was conducted to examine how the change in possession limit may change the landings patterns for the winter periods. These data indicate that since the implementation of the increased Winter I trip limit in 2012, there has been a moderate, steady increase in the number of trips and the number of associated pounds landed above the 30,000 lb threshold (Table 3).

Table 3: The total number of vessels, trips, and associated pounds for a given threshold (pounds) of scup for 2011-2014, Winter I and II. Note: 2014 data are preliminary. C = Confidential.

Time Period	Threshold	Vessels	%	Trips	%	Pounds	%
2011 Winter I (Jan-Apr)	>=1	207	100%	3,342	100%	5,807,280	100%
	>=500	128	62%	1,573	47%	5,590,146	96%
	>=5000	82	40%	337	10%	3,198,479	55%
	>=10000	54	26%	115	3%	1,665,417	29%
	>=15000	30	14%	38	1%	750,052	13%
	>=20000	14	7%	17	1%	391,898	7%
	>=25000	4	2%	4	0%	106,350	2%
	>=30000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2012 Winter I (Jan-Apr)	>=1	216	100%	4,753	100%	5,411,994	100%
	>=500	111	51%	1,815	38%	5,077,379	94%
	>=5000	58	27%	237	5%	2,423,926	45%
	>=10000	34	16%	75	2%	1,319,872	24%
	>=15000	19	9%	41	1%	915,408	17%
	>=20000	11	5%	19	0%	536,305	10%
	>=25000	8	4%	10	0%	331,895	6%
	>=30000	4	2%	5	0%	195,540	4%
	>=50000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2013 Winter I (Jan-Apr)	>=1	213	100%	3,749	100%	7,431,296	100%
	>=500	136	64%	1,928	51%	7,215,496	97%
	>=5000	77	36%	424	11%	4,402,159	59%
	>=10000	46	22%	151	4%	2,501,705	34%
	>=15000	26	12%	63	2%	1,437,985	19%
	>=20000	19	9%	36	1%	969,098	13%
	>=25000	12	6%	17	0%	548,563	7%
	>=30000	8	4%	11	0%	387,270	5%
	>=50000	0	0%	0	0%	0	0%
Time Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2014 Winter I (Jan-Apr)	>=1	187	100%	3,377	100%	6,078,832	100%
	>=500	120	64%	1,571	47%	5,859,320	96%
	>=5000	61	33%	330	10%	3,660,036	60%
	>=10000	38	20%	135	4%	2,274,762	37%
	>=15000	23	12%	57	2%	1,330,754	22%
	>=20000	12	6%	29	1%	844,335	14%
	>=25000	7	4%	18	1%	598,488	10%
	>=30000	5	3%	14	0%	489,867	8%
	>=50000	0	0%	0	0%	0	0%

Table 3, Continued:

Period	Threshold	Vessels	%	Trips	%	Pounds	%
2011 Winter II (Nov-Dec)	>=1	181	100%	3,259	100%	2,638,811	100%
	>=500	90	50%	1,183	36%	2,416,371	92%
	>=5000	39	21%	91	3%	614,747	23%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	0	0%	0	0%	0	0%
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2012 Winter II (Nov-Dec)	>=1	178	100%	3,112	100%	2,690,856	100%
	>=500	117	66%	1,302	42%	2,466,015	92%
	>=5000	35	20%	67	2%	447,986	17%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	0	0%	0	0%	0	0%
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
	>=50000	0	0%	0	0%	0	0%
Period	**Threshold**	**Vessels**	**%**	**Trips**	**%**	**Pounds**	**%**
2013 Winter II (Nov-Dec)	>=1	215	100%	3,020	100%	2,212,846	100%
	>=500	112	52%	1,073	36%	1,980,172	89%
	>=5000	24	11%	45	1%	294,092	13%
	>=10000	c	c	c	c	c	c
	>=15000	c	c	c	c	c	c
	>=20000	c	c	c	c	c	c
	>=25000	0	0%	0	0%	0	0%
	>=30000	0	0%	0	0%	0	0%
	>=50000	0	0%	0	0%	0	0%

Scup ex-vessel revenues based on dealer data have ranged from $3.3 to $10.4 million for the 1994 through 2013 period. The mean price for scup (unadjusted) has ranged from a low of $0.55/lb in 2011 and 2013 to a high of $1.46/lb in 1998 (Figure 5), with a strong price-volume relationship exhibited in the time series. In 2013, 17.87 million pounds of scup were landed generating $9.79 million in revenues ($0.55/lb).

When examining the landings and prices by period for 2007-2013, the period associated with the highest price per pound has varied year to year (Table 4). As landings have increased, price has generally decreased.

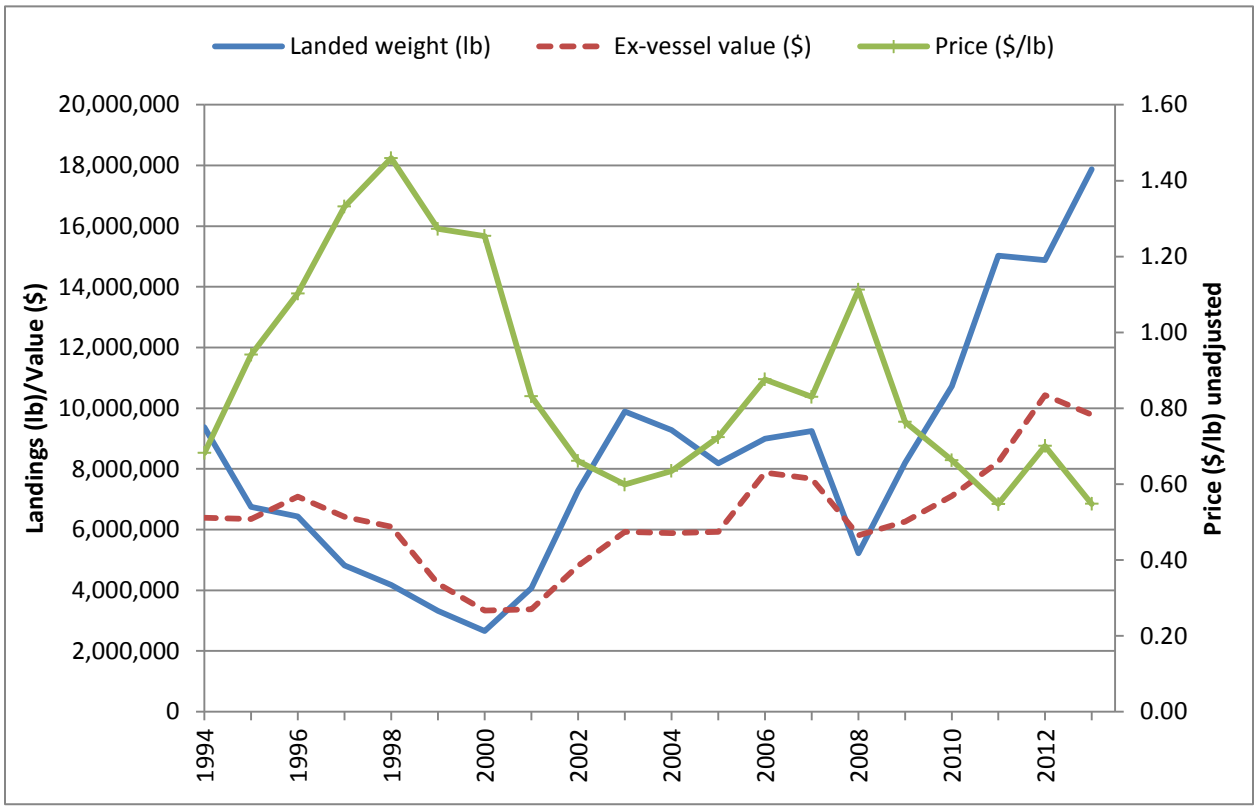

Figure 5: Landings, ex-vessel value, and price (unadjusted) for scup, Maine through North Carolina, 1994-2013.

Table 4: Commercial scup landings, ex-vessel value, and nominal price, by period, 2007-2013.

Year	Period	Landings (lbs)	Nominal Value ($)	Nominal Price Mean ($/lb)
2007	**Winter I**	3,397,362	3,098,131	0.91
	Summer	4,254,208	3,410,682	0.80
	Winter II	1,593,017	1,165,044	0.73
	Total	**9,244,587**	**7,673,857**	**0.83**
2008	**Winter I**	2,397,279	2,300,240	0.96
	Summer	1,933,203	2,773,152	1.43
	Winter II	894,139	736,733	0.82
	Total	**5,224,621**	**5,810,125**	**1.11**
2009	**Winter I**	3,774,583	2,505,230	0.66
	Summer	3,072,571	2,876,455	0.94
	Winter II	1,356,796	884,752	0.65
	Total	**8,203,950**	**6,266,437**	**0.76**
2010	**Winter I**	4,876,682	2,574,698	0.53
	Summer	4,307,065	3,336,595	0.77
	Winter II	1,543,934	1,201,374	0.78
	Total	**10,727,681**	**7,112,667**	**0.66**
2011	**Winter I**	5,807,280	2,775,814	0.48
	Summer	6,586,374	3,911,973	0.59
	Winter II	2,638,811	1,543,157	0.58
	Total	**15,032,465**	**8,230,944**	**0.55**
2012	**Winter I**	5,411,994	4,128,690	0.76
	Summer	6,781,245	4,807,675	0.71
	Winter II	2,690,856	1,492,612	0.55
	Total	**14,884,095**	**10,428,977**	**0.70**
2013	**Winter I**	7,431,296	3,871,666	0.52
	Summer	8,229,884	4,448,851	0.54
	Winter II	2,211,107	1,471,450	0.67
	Total	**17,872,287**	**9,791,967**	**0.55**

2013 NMFS dealer data were used to examine recent landings patterns among ports. The top commercial landings ports for scup by pounds landed are shown in Table 5. A "top port" is defined as any port that landed at least 100,000 lb of scup. Related data for the recreational fisheries are shown in subsequent sections. However, due to the nature of the recreational database, it is inappropriate to desegregate to less than state levels. The ports and communities that are dependent on scup are fully described in Amendment 13 to the FMP. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

Table 5: Top ports of landing (in lb) for scup, based on NMFS 2013 dealer data. Since this table includes only the "top ports," it may not include all of the landings for the year. Note: C = Confidential.

Port	Landings of Scup (lb)	# of Vessels
POINT JUDITH, RI	6,190,480	127
MONTAUK, NY	3,376,814	92
CAPE MAY, NJ	905,278	32
PT. PLEASANT, NJ	821,582	36
NEW BEDFORD, MA	780,691	51
HAMPTON, VA	610,038	31
HAMPTON BAY, NY	477,536	34
NEW LONDON, CT	474,006	9
LITTLE COMPTON, RI	454,149	19
STONINGTON, CT	442,559	19
MATTITUCK, NY	328,709	4
OCEAN CITY, MD	315,374	9
BELFORD, NJ	294,841	15
NEWPORT, RI	273,570	11
FALL RIVER, MA	C	C
CHINCOTEAGUE, VA	205,945	18
NEWPORT NEWS, VA	168,720	24
EAST LYME, CT	C	C
EAST HAVEN, CT	125,082	6
TIVERTON, RI	117,331	4
AMMAGANSETT, NY	113,963	5

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (46) who bought scup in 2013 (Table 6). All dealers bought approximately $9.79 million of scup in 2013.

Table 6: Dealers reporting buying scup, by state in 2013. Note: C = Confidential.

Number of Dealers	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	C	35	41	17	46	21	C	C	11	13

Recreational Fishery

There is a significant recreational fishery for scup in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. In Federal waters, the recreational scup fishery is managed on a coastwide basis. However, the ASMFC applies a regional management approach, where the four northern states (New York through Massachusetts) developed regulations intended to land 97 percent of the allocation. The 2014 recreational fishing measures in Federal waters are given in Table 1, and the 2014 state-specific measures are given in Table 7.

Recreational data have been available through the Marine Recreational Information Program (MRIP) since 2004, and prior to 2004 were available through the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings of scup peaked in 1986 with landings in numbers and weight at the lowest levels in 1998 (Table 8). When anglers are intercepted through the surveys conducted for the recreational statistics programs, they are asked about where the majority of their fish were caught (i.e., inland, state waters (<=3 miles), exclusive economic zone (EEZ; > 3 miles)). While these data are somewhat imprecise, they do provide a general indication of where the majority of scup are landed recreationally. On average, 97% of scup have been landed in state waters since 2004 (Table 9).

Table 7: Scup recreational fishing measures in state waters for 2014, by state.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	10	30 fish	May 1- December 31
MA (For-hire only)	10	45 fish	May 1 - June 30
		30 fish	July 1 - December 31
Rhode Island (Private and 4 Designated Shore Sites)	10	30 fish	May 1- December 31
RI (Party/Charter)	10	30 fish	May 1- August 31; November 1-December 31
		45 fish	September 1-October 31
Connecticut	10.5	20 fish	May 1- December 31
CT Shore Program (45 designated shore sites)	9		
New York	10	30 fish	May 1- December 31
NY (Anglers aboard licensed party/charter boats)	10	30 fish	May 1- August 31; 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	8	50 fish	All Year

Table 8: Recreational scup landings data from the NMFS recreational statistics databases, 1981-2013.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	10,376	9,084	5,812
1982	7,181	6,454	5,205
1983	10,155	8,837	6,252
1984	7,775	6,057	2,416
1985	13,861	10,810	6,093
1986	30,872	24,823	11,605
1987	12,377	9,916	6,197
1988	7,539	6,062	4,267
1989	11,394	9,176	5,557
1990	10,172	8,043	4,140
1991	16,852	13,279	8,087
1992	10,077	7,764	4,412
1993	7,076	5,663	3,197
1994	5,650	4,270	2,628
1995	3,767	2,419	1,344
1996	4,676	2,972	2,156
1997	3,070	1,916	1,198
1998	2,670	1,211	875
1999	4,636	3,251	1,886
2000	11,284	7,244	5,443
2001	9,925	5,099	4,262
2002	7,580	3,647	3,624
2003	14,661	9,452	8,484
2004	13,426	7,154	7,277
2005	7,038	2,589	2,693
2006	9,615	3,434	3,716
2007	10,051	4,748	4,564
2008	10,706	3,487	3,788
2009	8,704	3,134	3,230
2010	11,147	5,148	5,969
2011	6,473	3,056	3,665
2012	8,829	3,668	4,172
2013	10,037	4,958	5,344

Table 9: Percentage of scup recreational landings (MRIP Type A+B1 in number 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%
Avg. 2004-2013	96.6%	3.4%
Avg. 2011- 2013	97.1%	2.9%

Table 10: State contribution (as a percentage) to total recreational landings of scup (MRIP Type A+B1 in number of fish) from Maine through North Carolina, 2011 and 2012.

State	2012	2013
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	43.3%	42.0%
Rhode Island	13.6%	16.8%
Connecticut	23.7%	18.4%
New York	16.1%	19.8%
New Jersey	3.3%	2.9%
Delaware	0.0%	0.0%
Maryland	0.0%	0.0%
Virginia	0.0%	0.0%
North Carolina	0.0%	0.0%
Total	**100%**	**100%**

In 2013, there were 718 recreational vessels (i.e., party and charter vessels) that held scup Federal recreational permits. Many of these vessels also hold recreational permits for summer flounder and black sea bass. Landings by mode indicate that private/rental fishermen are responsible for the majority of scup landings (Table 11).

Table 11: The number of scup landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	772,162	1,054,555	7,256,991
1982	833,427	1,393,723	4,226,957
1983	2,227,113	2,996,660	3,612,789
1984	1,299,566	227,734	4,530,010
1985	1,121,593	325,846	9,362,609
1986	1,898,860	3,228,151	19,696,031
1987	522,310	583,977	8,809,700
1988	698,339	1,137,625	4,226,344
1989	882,602	1,033,317	7,260,511
1990	434,743	1,302,788	6,305,462
1991	1,625,127	2,250,043	9,403,919
1992	1,003,648	1,017,368	5,743,161
1993	284,525	1,762,457	3,616,036
1994	229,924	918,217	3,122,099
1995	222,397	837,391	1,359,243
1996	120,597	451,613	2,399,997
1997	141,367	453,069	1,321,999
1998	117,056	164,931	929,148
1999	197,876	821,995	2,230,779
2000	550,951	1,140,133	5,552,865
2001	766,084	768,894	3,563,842
2002	505,079	1,309,167	1,832,595
2003	858,699	1,329,588	7,264,026
2004	776,634	1,508,921	4,867,979
2005	394,888	165,759	2,028,783
2006	321,081	605,953	2,507,105
2007	352,618	516,174	3,879,033
2008	385,583	868,772	2,232,587
2009	209,882	1,122,189	1,801,986
2010	383,464	1,280,207	3,484,600
2011	302,056	470,571	2,283,585
2012	266,228	1,146,896	2,255,366
2013	917,609	1,631,073	2,409,292
% of Total, 1981-2013	10%	17%	73%
% of Total, 2009-2013	10%	28%	61%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 12). In addition, Steinback et al., 2009 summarized the reasons for fishing, with a majority of anglers (about 85 percent) fishing either mostly or fully for recreational purposes (Table 13).

Table 12: Average daily trip expenditures by recreational fishermen in the Northeast region by mode, in 2011. Source: Lovell et al. 2013.

Expenditures	$		
	Party/Charter	Private/Rental	Shore
Auto Fuel	24.92	13.50	13.25
Auto Rental	0.43	0.00	0.09
Bait	0.47	4.98	5.09
Boat Rental	0.52	18.40	0.00
Charter Fees	113.44	0.05	0.00
Crew Tips	9.95	0.00	0.00
Fish Processing	0.01	0.00	0.00
Food from Grocery Stores	12.09	6.11	6.22
Food from Restaurants	11.25	2.28	4.07
Gifts & Souvenirs	3.57	0.03	0.57
Ice	0.56	1.04	0.57
Lodging	17.42	1.35	7.69
Parking & Site Access	0.67	0.82	1.27
Public Transportation	1.56	0.05	0.15
Tournament Fees	3.77	0.00	0.00
Total	**200.63**	**48.62**	**38.96**

Table 13: Purpose of Marine Recreational Fishing in the Northeast. Source: Steinback et al., 2009.

	Percent	Number of anglers in 2005 (thousands)
All for food or income	2.1	92.4
Mostly for food or income	<1.0	34.3
Both for recreation and for food or income	11.7	514.8
Mostly for recreation	13.2	580.8
All for recreation	72.2	3,176.8

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Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports
July 2014

The Mid-Atlantic Fishery Management Council's (Council's) Summer Flounder, Scup, and Black Sea Bass Advisory Panel met jointly with the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Advisory Panels on July 1, 2014 to review fishery information documents for all three species and develop Fishery Performance Reports (FPRs) based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below reflect the broader discussion and are not necessarily consensus statements.

Council Advisory Panel members present: Greg DiDomencio* (NJ), Skip Feller* (VA), Harry Doernte (VA), James Fletcher (NC)

Commission Advisory Panel members present: James Tietje (MA), Robert Busby (NY), Marc Hoffman (NY), Paul Risi (NY), Paul Forsberg (NY), Skip Feller* (VA), Bill Shillingford (NJ), Bob Meimbresse (NJ), Greg DiDomencio* (NJ), Mike Fedosh (NJ)

Others present: Kiley Dancy (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Mike Luisi (MAFMC/ASMFC), John Boreman (MAFMC SSC)

*Serve on both Council and Commission Advisory Panels.

Summer Flounder

Market and Economic Issues

The closure of Oregon Inlet continues to drastically affect the ability to land summer flounder in North Carolina. The Council and Board should allow for increased commercial landings flexibility between states. One advisor noted that managers are currently managing for the benefit of the resource only, and not considering benefits to the fishermen or consumer.

Management Issues & Management Induced Effort Shifts

In the 2014 recreational measures, the New York/New Jersey/Connecticut region has a 45-day limit on the number of days that can be open during wave 3 (May/June). One advisor remarked that there was confusion about where this limitation originated, and that it has had a negative impact on the for-hire fleet in New York.

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey (residual effort reduction from Super storm Sandy in 2012) which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

A few advisors expressed a desire for recreational management to move back to state-by-state conservation equivalency. Others commented that if regional conservation equivalency continues to be used, the Commission should look into splitting certain states into separate regions. The advisors gave the example of possibly splitting the southern portion of New Jersey into a region with the states of Delaware through Virginia, while leaving the northern portion of the state with New York and Connecticut. One reason cited for this is that different sized fish are caught in these areas. One advisor noted that a split in the state of New Jersey would be preferable even if regional management is not continued.

Advisors noted recreational effort shifts based on regulations under regional conservation equivalency. For example, Rhode Island has a higher bag limit compared to Massachusetts. Due to this difference, one advisor noted that Massachusetts is seeing fewer charter trips and catching fewer fish. The bag limit drives the perception of customers and encourages more anglers to come to Rhode Island. Another example is the regional split between Delaware and New Jersey, which is negatively impacting business in Southern New Jersey, as more people are driving to Delaware to fish under a lower size limit. Advisors noted that there will always be issues when regulations differ between bordering states.

Similar to last year, advisors noted that high size limits continue to direct the most fishing pressure on large female summer flounder.

Other Issues

One advisor pointed out that the requirement for aluminum TEDs in North Carolina, rather than allowing pre-stressed cable, was affecting landings to the southern range of the management unit and resulting in major effort shifts. This advisor noted that there are plenty of fish available in south, but management measures such as these TED requirements are preventing landings that would otherwise be occurring in southern areas.

Research Recommendations

Research suggestions proposed by advisors included:

- Research into use of different hook types to reduce discard mortality in the recreational summer flounder fishery.
- Explore wider uses of smartphone applications and other electronic monitoring for voluntary angler surveys.

Scup

Market and Economic Issues

One advisor commented that the increase in the minimum fish size over the years has impacted markets for scup. There used to be a market for smaller scup that fit into a frying pan, but that market has transitioned to imported tilapia since the Council has put the larger size limits in place. Managers should work towards total utilization for the commercial fishery, where all catch must be brought ashore and any size can be sold.

One advisor commented that prices for scup are down because of the abundance of the fish, and noted that the price per fish would go up if biomass would go down. Another advisor expressed

that in the commercial fishery, the markets have experienced the growing pains of rebuilding, but are starting to see benefits. Recent management changes will make benefits more pronounced in the commercial fishery (e.g., the increased Winter II trip limit). Scup are now increasingly part of the value-added market in many places, and increasingly placed on restaurant menus. The market for scup is returning, albeit from a different group of consumers.

The price of fuel is affecting every facet of the fishery, predominately by increasing overall costs, and the trend only seem to be getting worse. Fuel prices have had a big economic impact on party/charter fishery, by affecting rates and therefore participation.

One advisor noted that for the first time, he is seeing marinas that are not full. There are fewer boats and less money available. In bad economic times, people will not spend money on recreational fishing. Low income participants used to be able to easily justify the costs of a fishing trip. Now, recreational participants often can't justify the cost if they are not able to balance fees with what they are able to catch and keep. One advisor suggested changing size limits to total cumulative length, which would allow for increased retention of scup.

Environmental and Ecological Issues

Scup are eating juveniles of other species, specifically crabs and lobsters. There is a need to consider how the high biomass of scup impacts other species. One advisor noted that scup biomass should be reduced to reduce significant impacts to other species.

Management Issues & Management Induced Effort Shifts

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey, which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

Advisors generally agreed that managers should encourage and incentivize more scup catch given high biomass estimates (200% of the target biomass, based on 2012 stock assessment update), and that the strong, healthy stock can support liberalization of some measures. Several advisors consider it imperative that action be taken to reduce the scup biomass, given concerns of potential predation on other commercially valuable species. Both commercial and recreational minimum sizes could be much smaller, and could always be increased later if there are problems. Smaller minimum sizes will greatly reduce discards. Smaller size limits should be considered before increased trip limits (for both commercial and recreational fisheries) because it would increase availability to all sectors/user groups and would reduce waste. Shore fishermen would have increased opportunity to take home fish with smaller size limits. The scup fishery is strong enough to support these changes, and advisors would not expect fishery to decline back to levels seen in the 80s, when draggers had smaller mesh nets. Gear restrictions are helping to maintain the stock by reducing dead discards.

Fishing Behavior Issues

Advisors noted that managers should consider the subsistence fishing aspect of the scup fishery. In the 80s, there used to be a 100 fish trip limit, with 8-hour trips, with customers predominately

freezing these larger quantities of fish to eat over time. Now with reduced trip limits, the time needed to reach a trip limit is quicker, so trips are shorter, with charter boats booking multiple day trips. While two trips instead of one has been good for for-hire businesses, it's somewhat inefficient for participants (and more expensive, which disadvantages lower-income participants). The various changes in size limits, trip expenses, and availability of fish over past three decades has changed the clientele. A lot of scup trips are tourist trips now. Managers should consider the range of participants that they would like the fishery to be available to in the future.

Other Issues

One advisor noted that the Coast Guard targets commercial fishermen, but should be putting equal effort into checking recreational vessels as well.

Research Recommendations

Research suggestions proposed by advisors included:

- Adding a research recommendation for quantifying the role of scup as a predator, not just as a prey species. There was also support for quantifying the role of juvenile scup as a forage species.
- Recommendation #5 in the draft 5-year research plan (incorporating ecological relationships and oceanic events into the stock assessment model) should be designated as a higher priority.
- Research into cooking methods for cooking the whole fish (with bones), which could lead to improved markets for scup.
- A financial reward system should be created that anyone could access in exchange for contributing to research work, since the current process has become a "closed system."

Black sea bass

Environmental and Ecological Issues

Advisors commented that sea bass are wiping out other species, in particular feeding on juvenile lobsters. Some advisors noted concern about black sea bass biomass movement northward in search of food and potential impact on the lobster industry throughout New England. Increased biomass has led to increased predation on other species.

Advisors noted that there's such a high biomass of fish in the north that they are becoming nearly invasive in some areas. The biomass needs to be regulated to control impacts on other species. One advisor noted that the NEAMAP survey shows that sea bass indices are off the chart, similar to scup. The NEAMAP survey has never been wrong, and there is no reason to have the restrictions that we currently have.

Management Issues & Management Induced Effort Shifts

Advisors agreed that black sea bass is facing a critical management situation that needs to be addressed immediately. Despite Magnuson Act restrictions, the Council and Commission need to approach these issues with more common sense. Waiting until a potential 2016 benchmark assessment will be too late. The current quota is punitive and based on bad information. Faith in

the management system is being lost, and now is the time to break the rules and experiment with different solutions.

Southern states need different recreational regulations than northern states. The recreational season in Virginia has been closed when they most need it open. The highest landings for Virginia are reported in July according to MRIP, however, one advisor noted that they catch far more in the winter. Wave 1 has been closed due to lack of catch accounting, but the wave 1 fishery is primarily larger party/charter boats who file VTRs. VTR data should be used in general (not just in wave 1), as this is good data going unused in favor of lower quality estimates. Mangers should also consider also requiring and using state VTR data. Advisors also noted that many people are being shut out of most or all of the sea bass season in some areas (e.g., shore based fishermen). The sea bass fishery can withstand an extended season and increased bag limit, and a limited winter fishery should be open with VTR requirements. One advisor suggested looking at reducing size limits, or going to total (cumulative) length.

Advisors commented that current recreational data collection under MRIP is no different from MRFSS. Similar to last year, advisors noted that the MRIP survey has not advanced to the point where it can adequately capture reductions in effort. One advisor described an effort reduction of about 30% in New York and New Jersey, which is not reflected in the MRIP estimates and will result in estimated landings which could be inflated. All components of the new MRIP methodology need to be implemented.

The average size of black sea bass is increasing, but as the result of harvest limits that are in pounds, fishermen can catch fewer total numbers of fish.

Advisors are frustrated with high discards of black sea bass. Boats need to go farther offshore to catch bigger fish, but this means fishing in deeper waters, where discard mortality is higher. Many participants don't know how to vent and properly release. FishSmart[1] should be disseminated to a greater degree among recreational fishermen. There are ongoing efforts to reduce mortality from barotrauma, and hopefully in the future, mortality estimates and resulting catch limits will give anglers credit for this reduced discard mortality.

In Nantucket Sound (part of which is nursery habitat for sea bass), there used to be big pot fishery that was significantly restricted. If managers are able to increase catch limits, they should let pot fishermen get back to fishing.

Research Recommendations

Research suggestions proposed by advisors included:

- Exploring the feasibility of a slot limit in the recreational fishery and research into finding an appropriate range of a potential slot limit.
- Quantifying shifts in distribution and abundance resulting from climate change.
- Effects of chemicals to increase growth rate and influence sex change, and aquaculture research on stock enhancement potential.

[1] http://www.fishsmart.org/

Scup Data Update for 2014

National Marine Fisheries Service
Northeast Fisheries Science Center
166 Water St.
Woods Hole, MA 02543

Fishery and Survey Data

Reported 2013 landings in the commercial fishery were 8,108 mt = 17.875 million lbs, about 73% of the commercial quota including the RSA (11,106 mt = 24.484 million lbs). Estimated 2013 landings in the recreational fishery were 2,424 mt = 5.344 million lbs, about 71% of the recreational harvest limit (3,425 mt = 7.551 million lbs). Total commercial and recreational landings in 2013 were 10,532 mt = 23.219 million lbs and total commercial and recreational discards were 1,703 mt = 3.754 million lbs, for a total catch in 2013 of 12,235 mt = 26.974 million lbs (Table 1, Figure 1).

State and Federal survey biomass index trends were variable, but most indices decreased from 2012 to 2013 (Figures 2-12). Indices of recruitment (age 0 fish) were generally lower over the last 3 years than in the previous decade (Figure 13).

Table 1. Total catch (metric tons) of scup from Maine through North Carolina. Landings include revised Massachusetts landings for 1986-1997. Commercial discards for 1981-1988 calculated as the geometric mean ratio of discards to landings numbers at age for 1989-1993. Commercial discard estimate for 1998 is the mean of 1997 and 1999 estimates. Recreational catch from MRIP (2004-2013) and MRFSS (1981-2003) adjusted by MRFSS to MRIP 2004-2011 ratio.

Year	Commercial Landings	Commercial Discards	Recreational Landings	Recreational Discards	Total Catch
1981	9,856	4,964	3,116	59	17,995
1982	8,704	4,383	2,791	53	15,931
1983	7,794	3,925	3,353	63	15,135
1984	7,769	2,158	1,296	33	11,256
1985	6,727	4,184	3,268	60	14,239
1986	7,176	2,005	6,223	97	15,501
1987	6,276	2,537	3,323	42	12,178
1988	5,943	1,657	2,289	35	9,923
1989	3,984	2,229	2,980	43	9,237
1990	4,571	3,909	2,220	42	10,742
1991	7,081	3,530	4,336	87	15,034
1992	6,259	5,668	2,366	52	14,345
1993	4,726	1,436	1,714	31	7,907
1994	4,392	807	1,409	41	6,649
1995	3,073	2,057	720	14	5,864
1996	2,945	1,522	1,156	22	5,645
1997	2,188	1,843	642	9	4,682
1998	1,896	3,331	469	16	5,712
1999	1,505	4,819	1,012	7	7,343
2000	1,207	2,352	2,919	61	6,539
2001	1,729	1,499	2,285	184	5,697
2002	3,173	5,636	1,944	152	10,905
2003	4,405	2,153	4,549	176	11,283
2004	4,231	893	3,278	182	8,584
2005	4,266	662	1,215	270	6,413
2006	4,062	1,387	1,681	426	7,556
2007	4,196	1,859	2,085	346	8,486
2008	2,351	2,879	1,713	287	7,229
2009	3,717	1,675	1,462	211	7,065
2010	4,855	2,108	2,715	318	9,996
2011	6,819	1,913	1,632	173	10,537
2012	6,751	2,152	1,842	231	10,976
2013	8,108	1,477	2,424	226	12,235

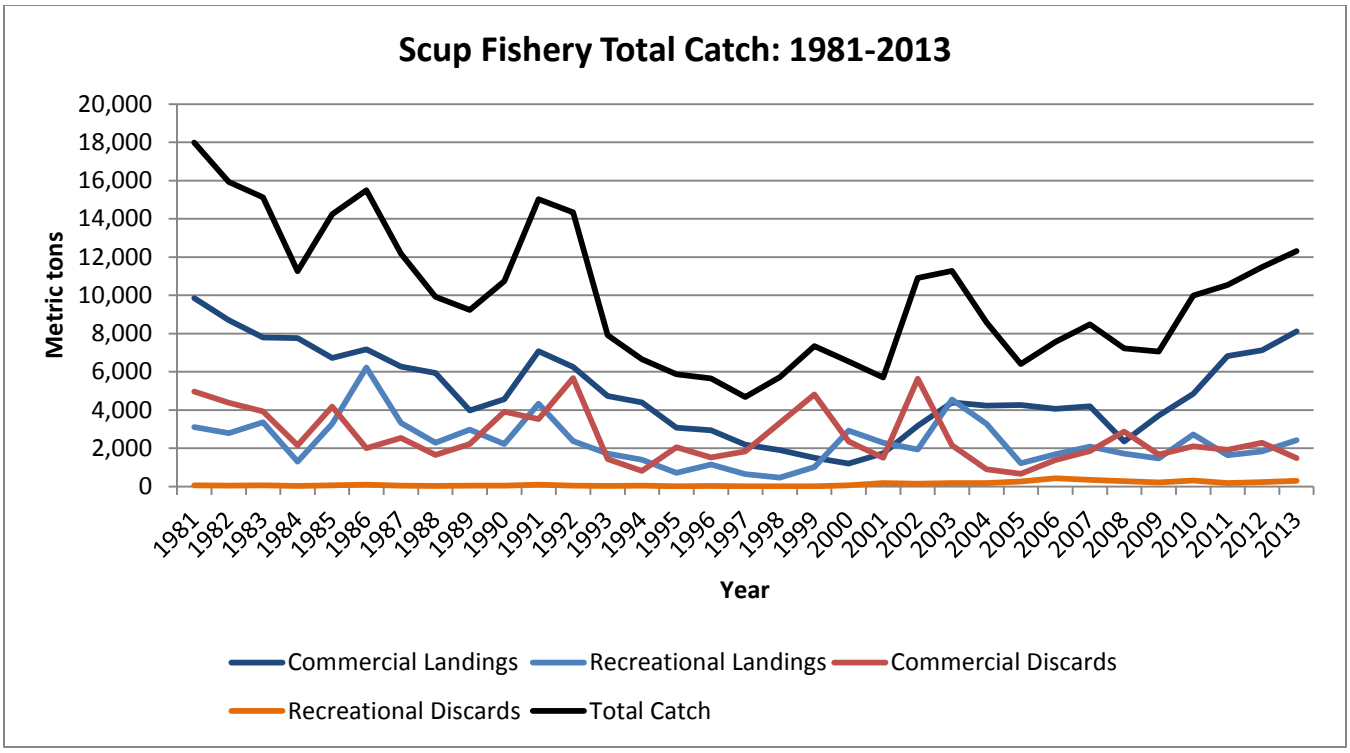

Figure 1. Scup fishery total catch.

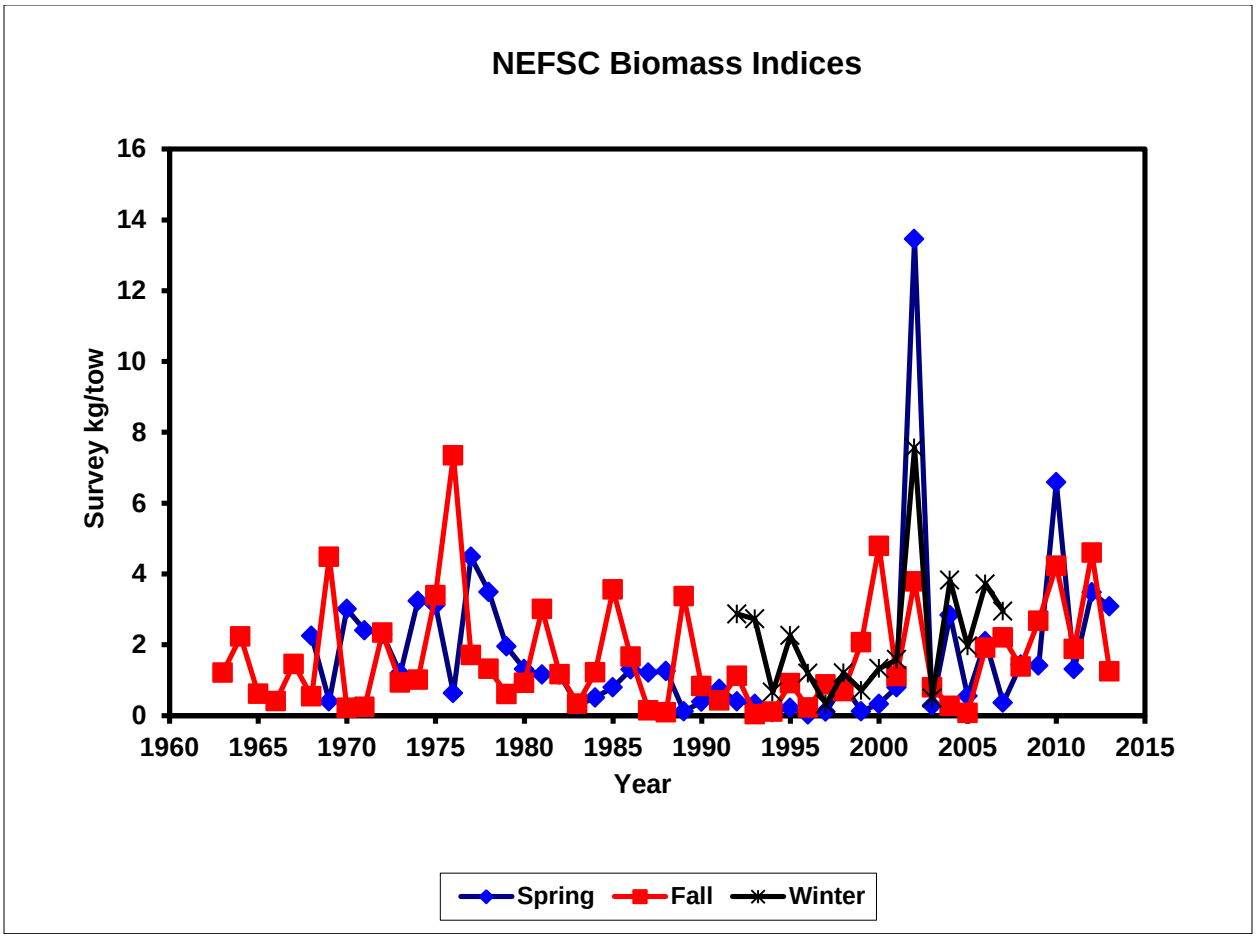

Figure 2. NEFSC trawl survey biomass indices for scup.

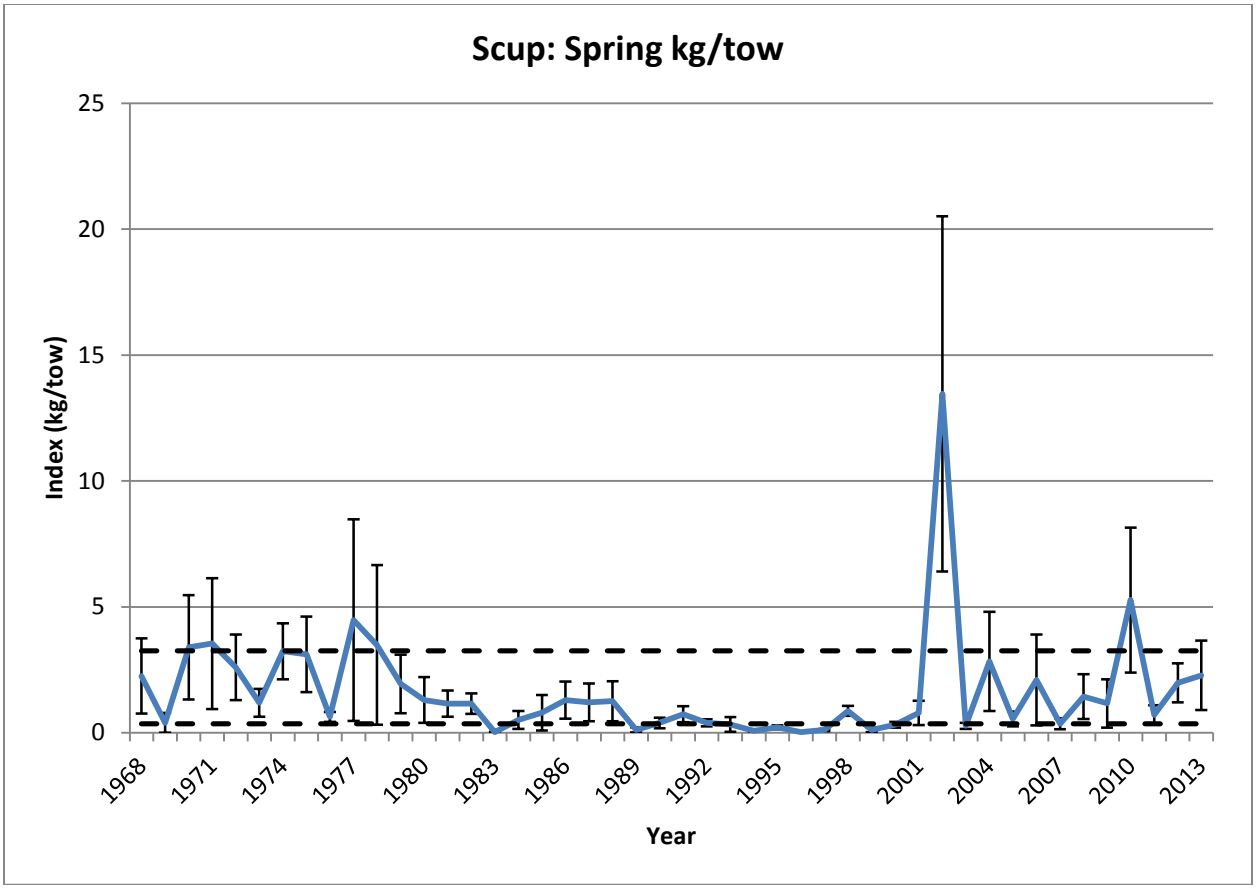

Figure 3. NEFSC spring trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

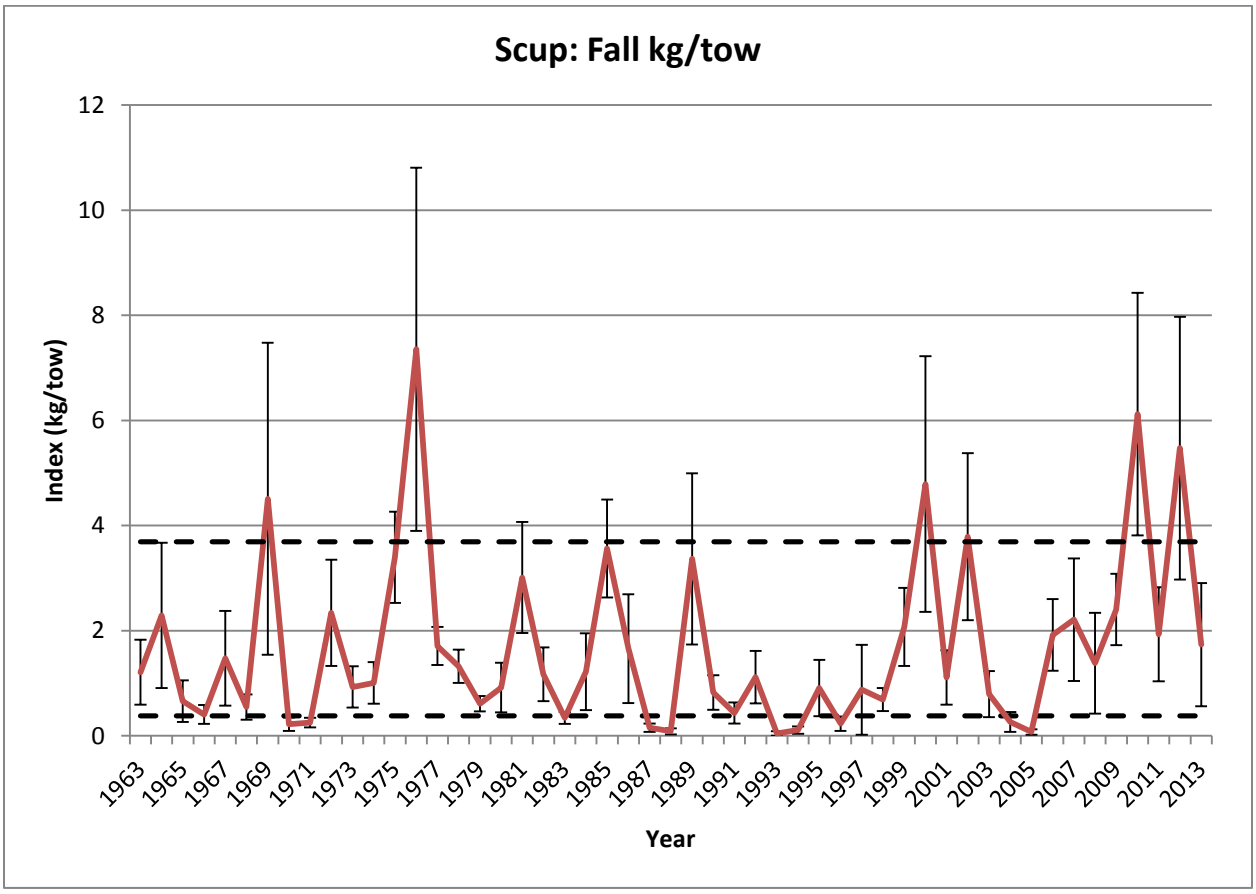

Figure 4. NEFSC fall trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

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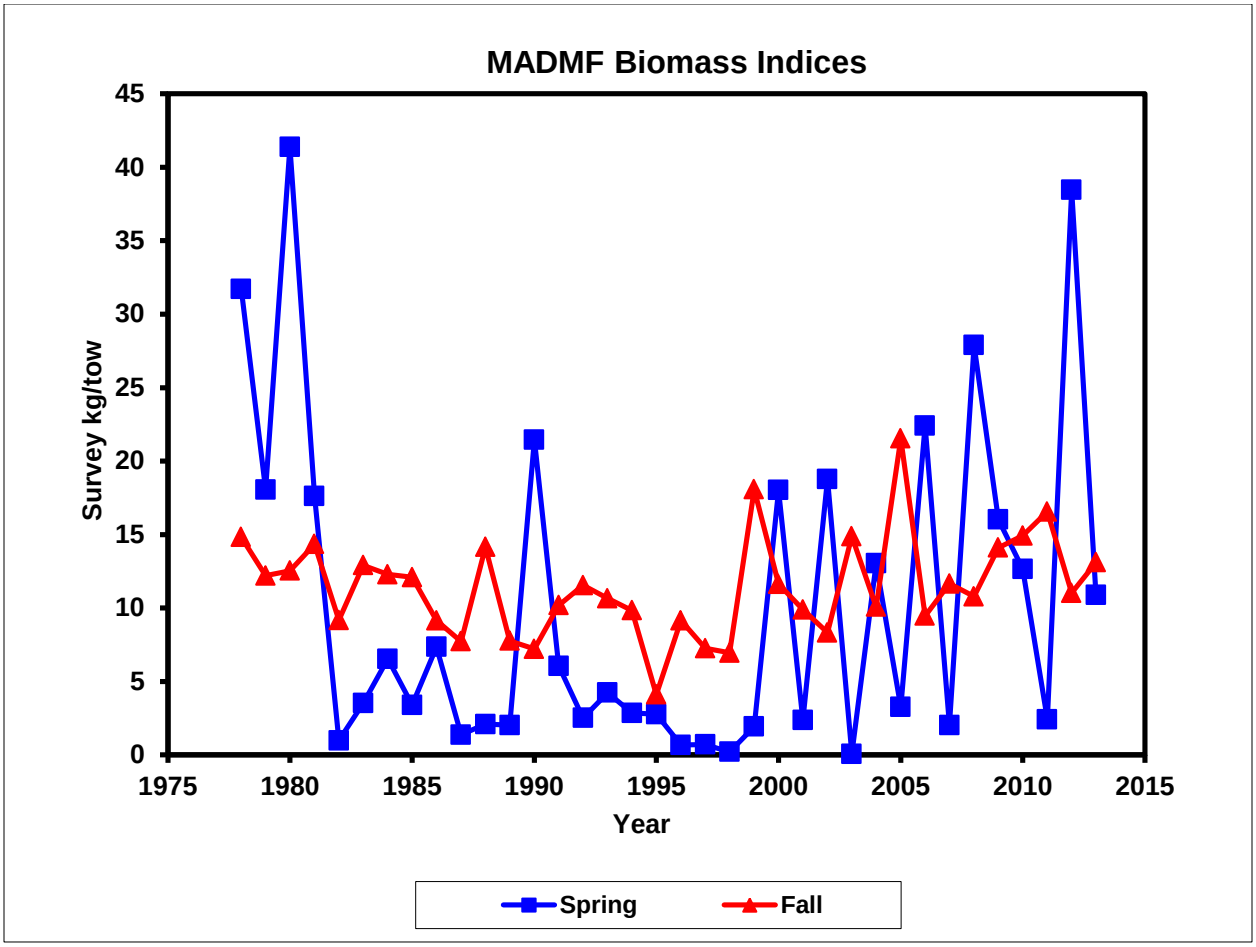

Figure 5. MADMF trawl survey indices for scup.

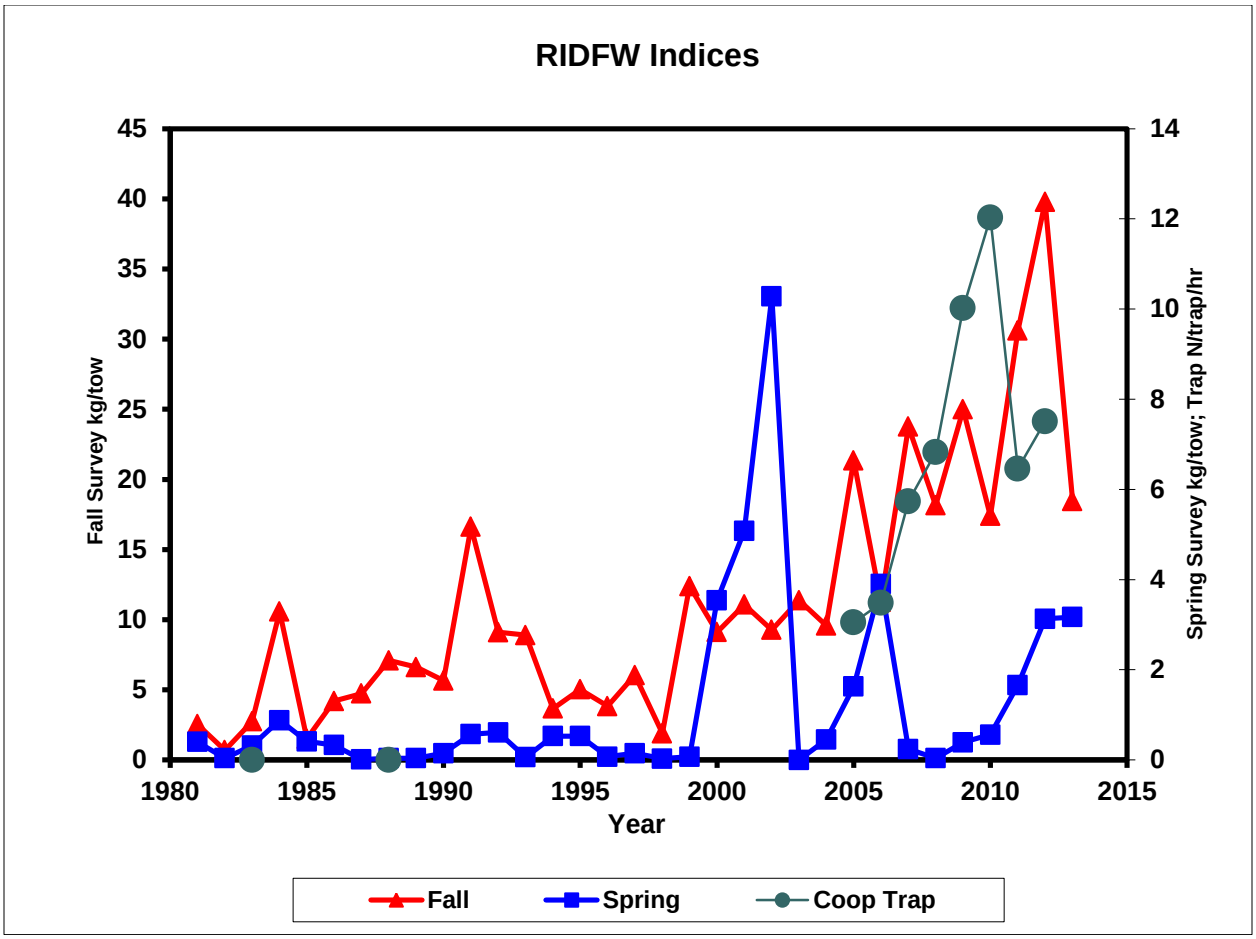

Figure 6. RIDFW trawl and trap survey indices for scup. The Cooperative trap survey ended in 2012.

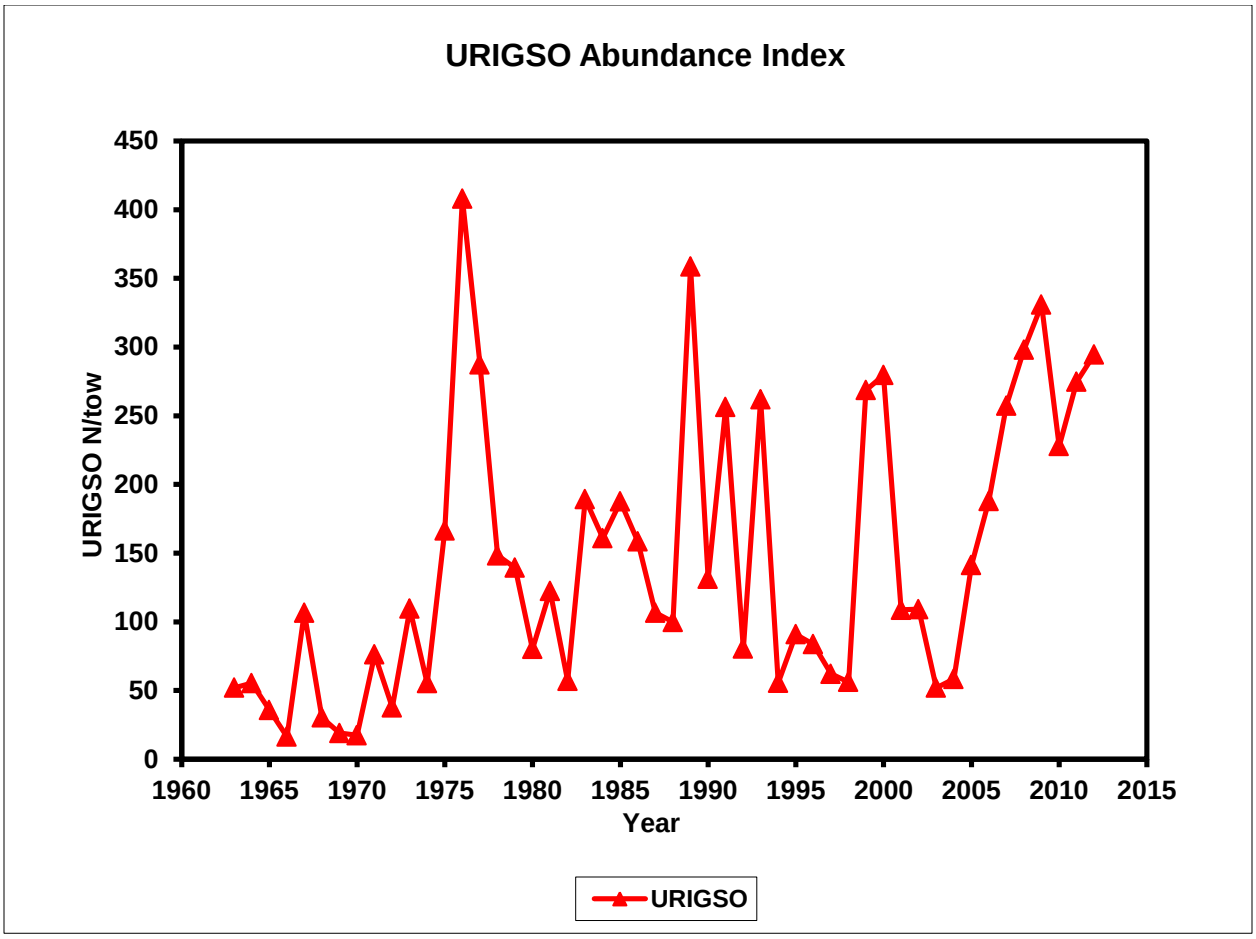

Figure 7. URIGSO trawl survey indices for scup. 2013 indices not available.

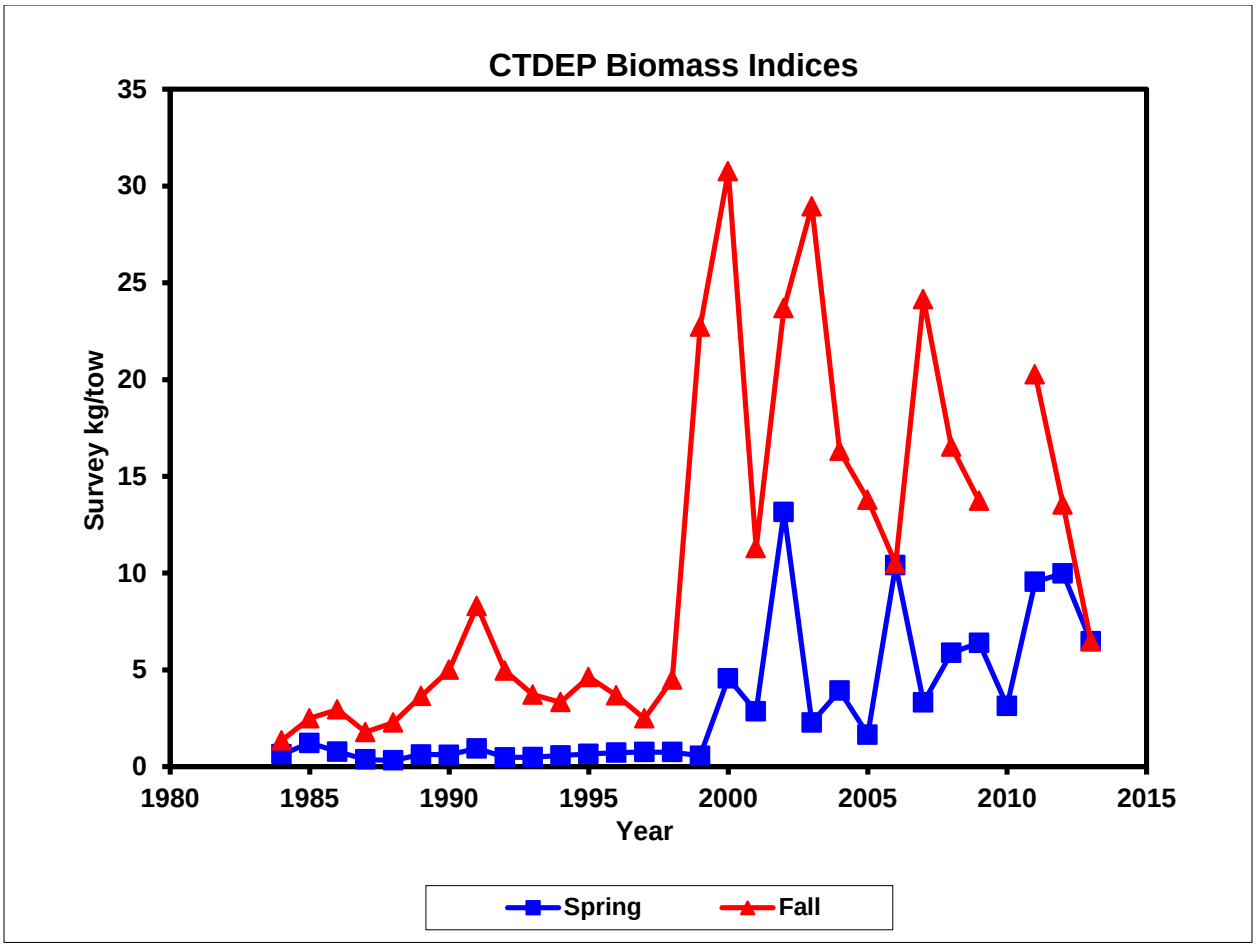

Figure 8. CTDEP trawl survey indices for scup.

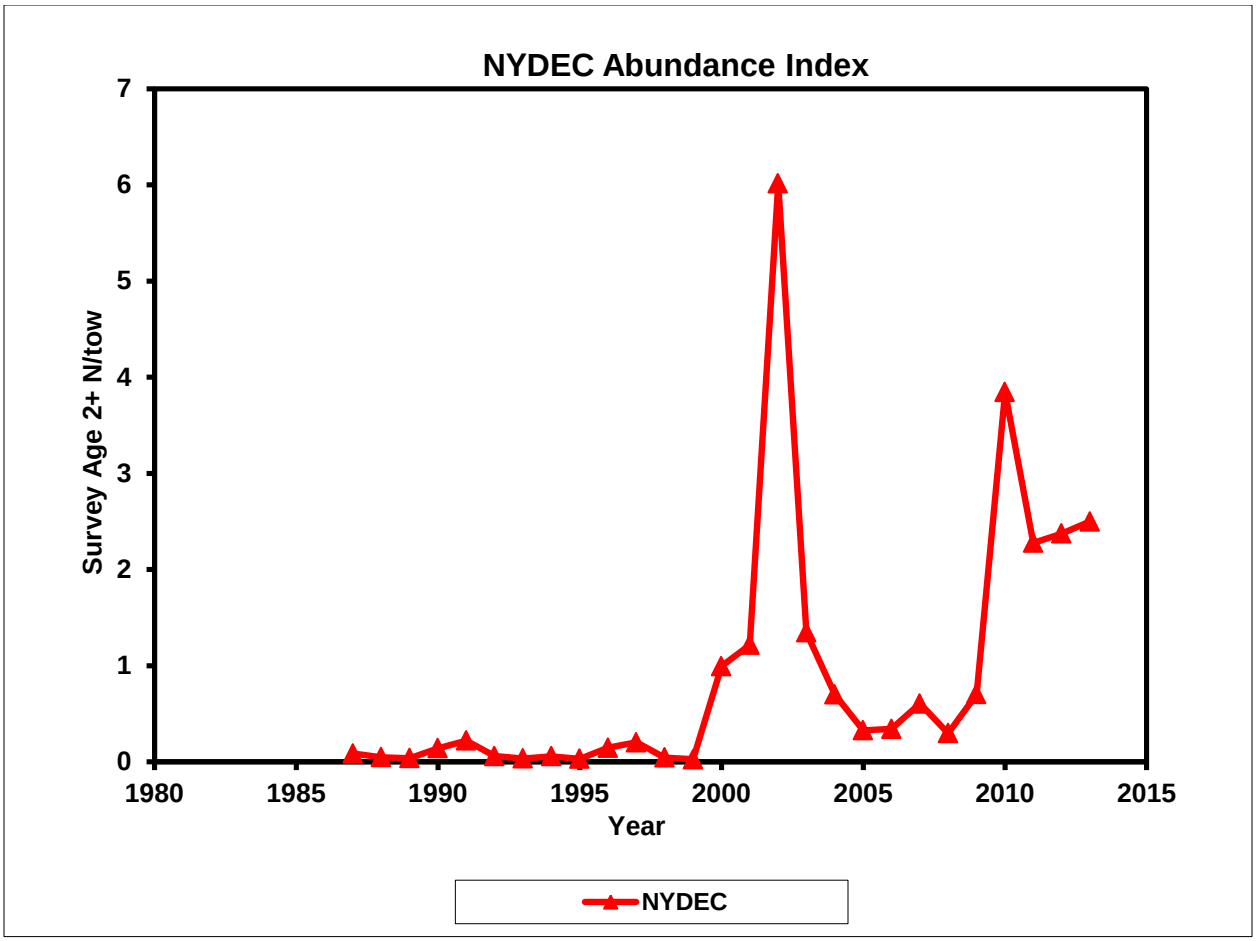

Figure 9. NYDEC trawl survey indices for scup.

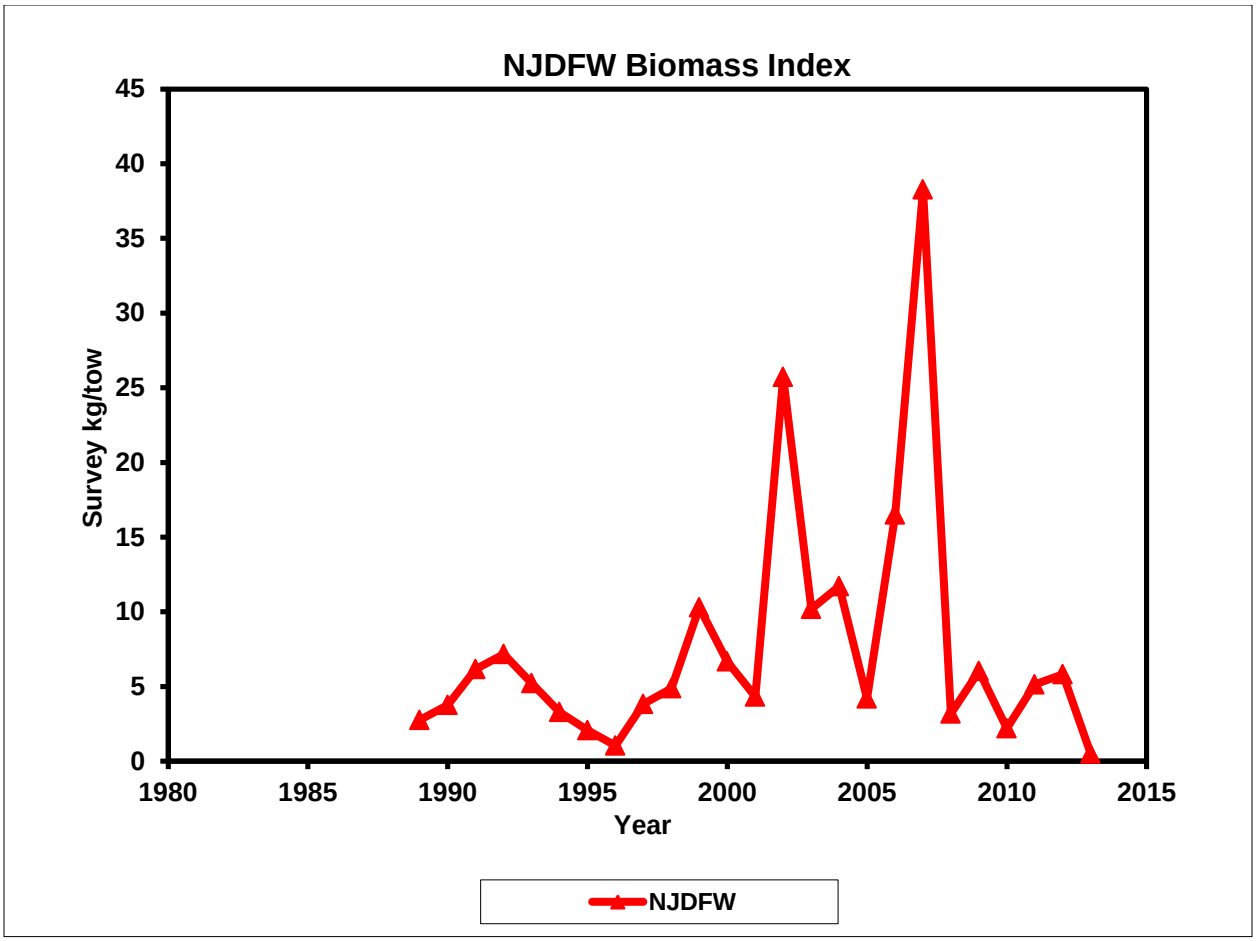

Figure 10. NJDMF trawl survey indices for scup.

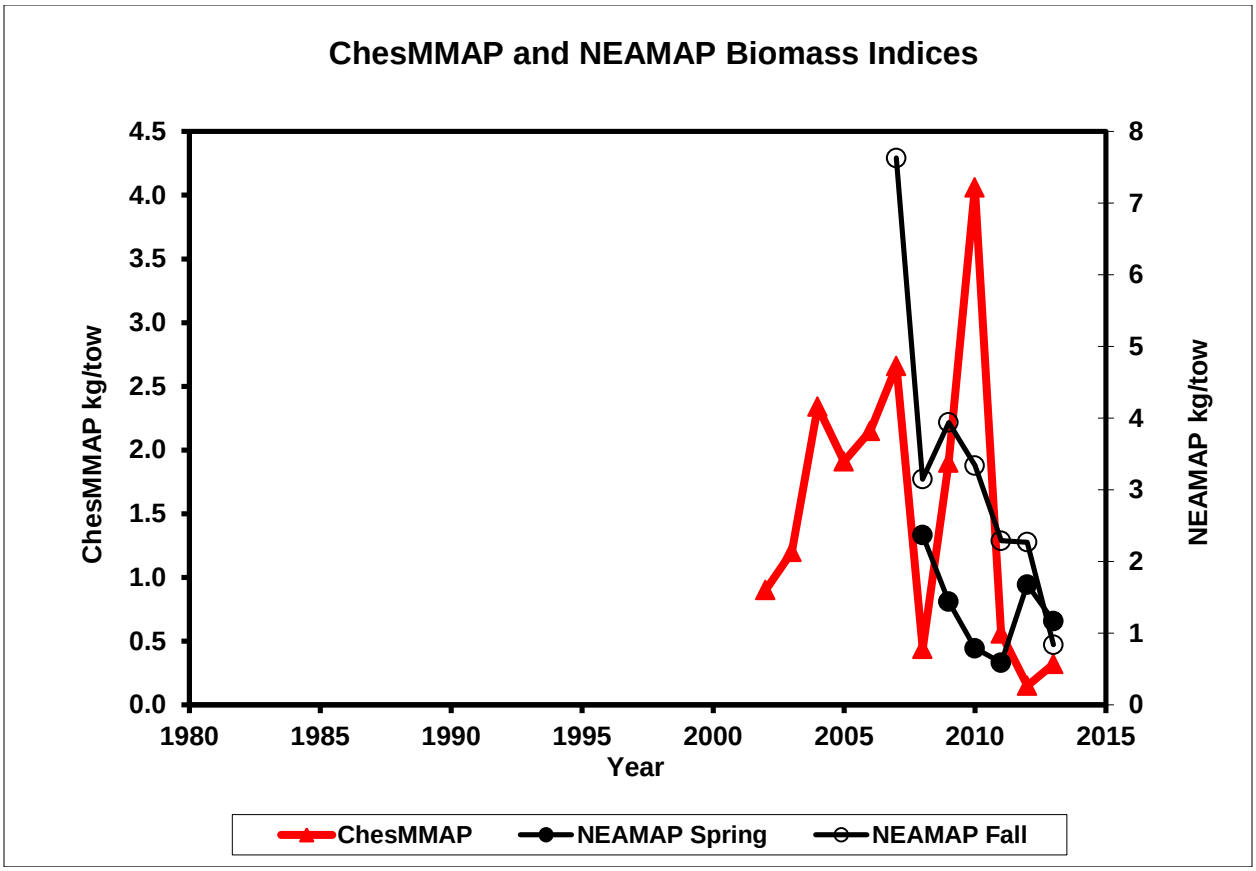

Figure 11. VIMS (ChesMMAP and NEAMAP) trawl survey indices for scup.

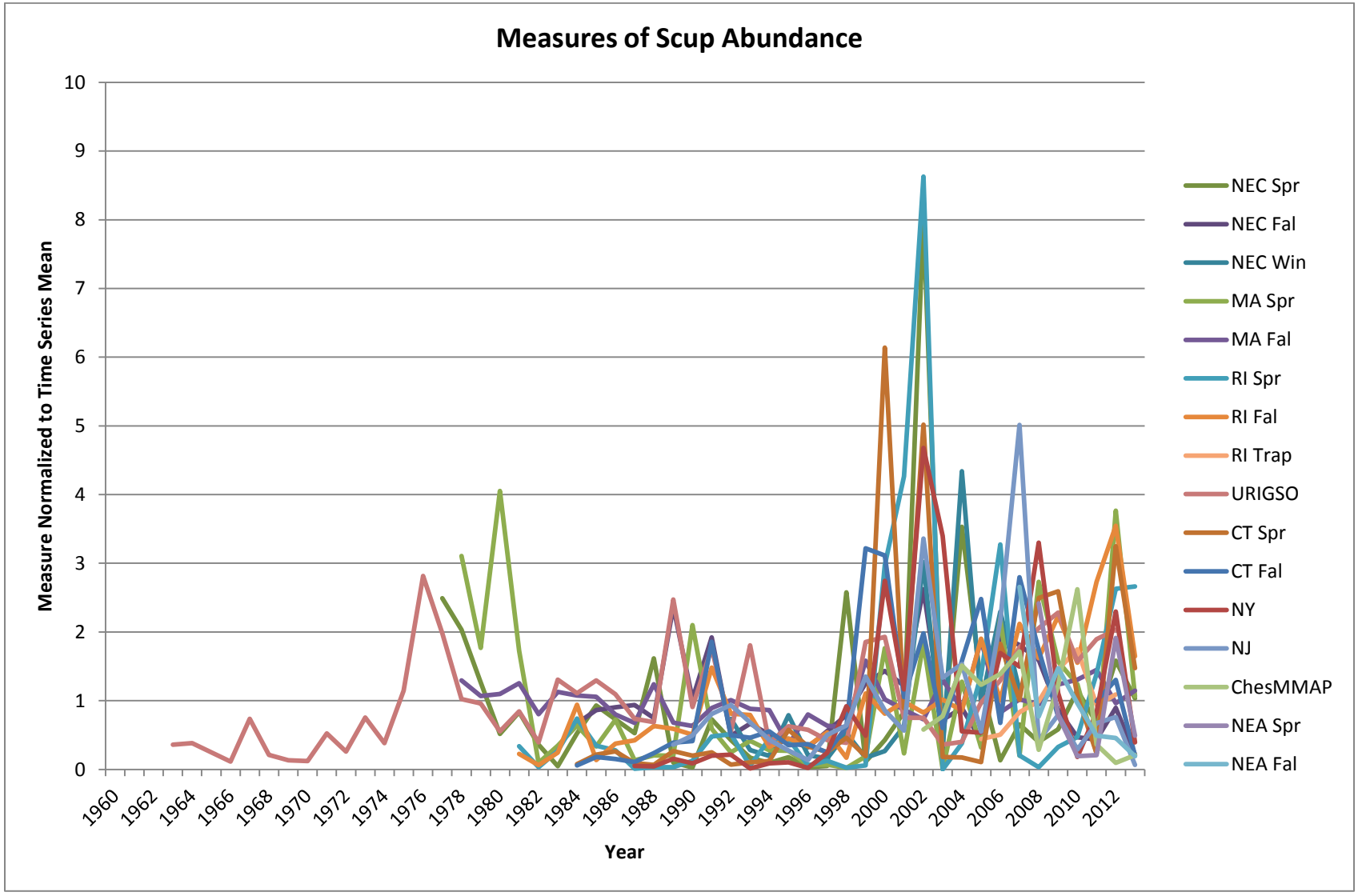

Figure 12. Measures of scup aggregate numeric abundance. Indices normalized to time series means.

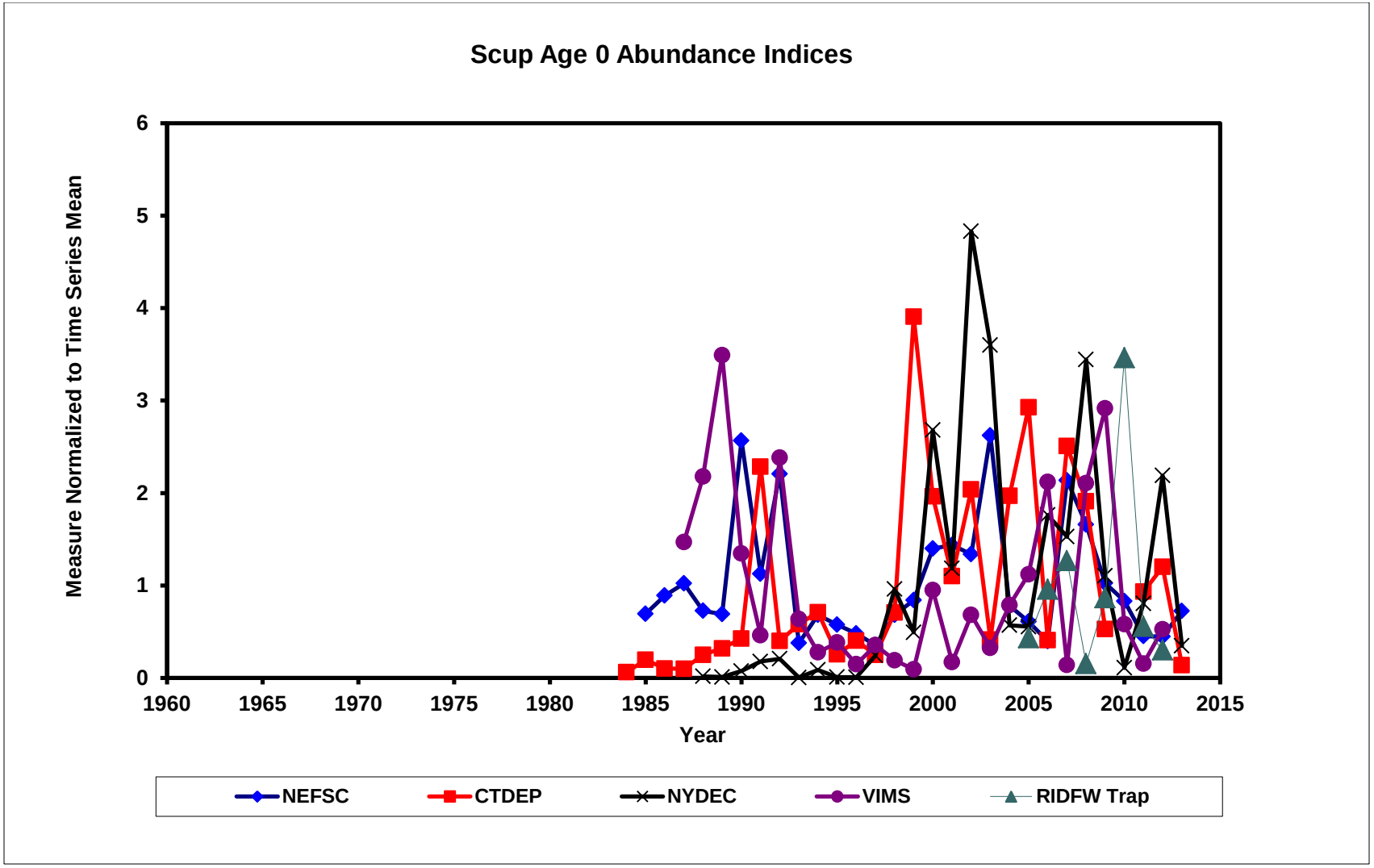

Figure 13. Measures of scup age 0 abundance. Indices normalized to time series means.

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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 8, 2014

TO: Chris Moore, Executive Director

FROM: Kiley Dancy, Staff

SUBJECT: Review of Scup Management Measures for 2015

Executive Summary

In 2012, three-year specifications were recommended for scup, establishing management measures for the 2013-2015 fishing years. Catch and landings limits are already in place for 2015 and may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and ASMFC's Summer Flounder, Scup, and Black Sea Bass Board determine that the previously recommended Acceptable Biological Catch (ABC) for 2015 (33.77 mil lb; 15,320 mt) is still appropriate. Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any necessary modifications to the implemented 2015 commercial management measures.

Based on the latest stock assessment update in July of 2012, the scup stock is not overfished and overfishing is not occurring. The assessment model estimated spawning stock biomass (SSB) was 419.81 million lb (190,424 mt) in 2011 (207% of the biomass at maximum sustainable yield, SSB_{MSY}).

Staff recommends maintaining the specified ABC (33.77 mil lb) as the basis for management measures in 2015. This ABC resulted in a commercial Annual Catch Limit (ACL) of 26.34 million lb (11,950 mt), and a recreational ACL of 7.43 million lb (3,370 mt). Based on the recommendation of the Monitoring Committee, both the commercial Annual Catch Target (ACT) and the recreational ACT were set equal to their respective sector ACLs for 2015. Last year, the Council recommended that up to 3% of the commercial and recreational quotas be reserved for research set-aside (RSA) in 2015.[1] After adjusting for projected discards and 3% RSA, the 2015 commercial quota is 20.60 mil lb, and the recreational harvest limit is 6.60 mil lb (Table 1).

Staff does not recommend any changes to the current commercial minimum fish size (9 inch-TL), gear requirements, or possession limits.

[1]The Council is scheduled to have a separate discussion at the August 2014 meeting regarding the future of the RSA program.

Table 1: Current multi-year catch and landings limits for scup in 2014 and 2015. (Numbers may not add precisely due to rounding error.)

Management Measure	Current (2014)		2015		Basis
	mil lb.	mt	mil lb.	mt	
ABC	35.99	16,325	33.77	15,320	Projections
ABC Landings Portion	29.87	13,550	28.03	12,716	Projections
ABC Discards Portion	6.12	2,775	5.74	2,604	Projections
Commercial ACL (=ACT)	28.07	12,734	26.34	11,950	78% of ABC (per FMP)
Comm. discards (projected)	5.45	2,471	5.11	2,318	89% of ABC discards portion, based on 2009-2011 average % discards by sector
RSA deduction (3%)	0.68	308	0.64	289	3% of pre-RSA Comm. Quota
Commercial quota (adjusted)	21.95	9,955	20.60	9,343	Comm. ACT less discards and RSA
Recreational ACL (=ACT)	7.92	3,592	7.43	3,370	22% of ABC (per FMP)
Rec. discards (projected)	0.67	304	0.63	286	11% of ABC discards portion, based on 2009-2011 average % discards by sector
RSA deduction (3%)	0.22	99	0.20	93	3% of pre-RSA RHL
Recreational Harvest Limit (adjusted)	7.03	3,188	6.60	2,991	Rec. ACT less discards and RSA

Introduction

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for Acceptable Biological Catch (ABC), prevention of overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committees established by the Fishery Management Plan (FMP), are responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

Multi-year specifications may be set for scup for up to three years at a time. For fishing year 2015, the SSC previously recommended an ABC for scup as part of the multi-year specifications setting process for the 2013-2015 fishing years. The SSC recommended an ABC that addresses scientific uncertainty, while the Monitoring Committee recommended an annual catch target (ACT) and management measures that address management uncertainty. Both the SSC and Monitoring Committee will review the measures currently implemented and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the National Marine Fisheries

Service (NMFS) Greater Atlantic Regional Administrator, if changes to the specifications are believed to be warranted. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to revisit scup management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2015 fishing year for scup.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for scup developed by the Council and Commission Advisory Panels, as well as in the corresponding Scup Information Document prepared by Council staff.

Catch and Landings Update

According to the Scup Data Update for 2014, commercial landings in 2013 were 17.88 mil lb (8,108 mt), and recreational landings were 5.34 mil lb (2,424 mt). The 2014 commercial landings as of the week ending April 27, 2014 indicate that 67% of the Winter I (January-April) quota had been landed. As of the week ending June 21, 2014, the coastwide landings report indicated that 32% of the Summer period quota has been landed (Table 2).

Table 2: The 2014 scup summer period quota and the amount of scup landed by commercial fishermen in the summer period, in each state as of week ending June 21, 2014.

State	Cumulative Landings (lb)[a]	2014 Summer Quota (lb)	Percent of Quota (%)	Set-Aside Landings (lb)
ME	0	--	--	0
NH	0	--	--	0
MA	343,241	--	--	267
RI	1,326,998	--	--	20,062
CT	82,542	--	--	0
NY	784,365	--	--	86,846
NJ	166,040	--	--	0
DE	1	--	--	0
MD	2,808	--	--	0
VA	29,924	--	--	0
NC	5,446	--	--	0
Other	0	--	--	0
Totals	**2,741,365**	**8,548,264**	**32**	**107,175**

[a] Quotas adjusted for research set-aside and overages. Source: NMFS Weekly Quota Report for week ending June 21, 2014.

Stock Status and Biological Reference Points

The most recent benchmark assessment on scup was peer-reviewed and accepted in December 2008 by the DPSWG Peer Review Panel. Documentation associated with this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the NEFSC website: http://www.nefsc.noaa.gov/saw/.

The biological reference points for scup include a fishing mortality threshold of $F_{MSY} = F_{40\%}$ (as F_{MSY} proxy) = 0.177 and $SSB_{MSY} = SSB_{40\%}$ (as SSB_{MSY} proxy) = 202.92 million lb (92,044 mt; 2008 Data Poor Stock Working Group Peer Review Panel). The minimum stock size threshold, one-half SSB_{MSY}, is estimated to be 101.46 million lb (46,022 mt).

The July 2012 assessment update indicates that the scup stock is not overfished and overfishing is not occurring relative to the biological reference points. Fishing mortality in 2011 was estimated to be 0.034, below the fishing mortality threshold reference point (F_{MSY} = 0.177). SSB in 2011 was about 420 million lb (190,424 mt).

Regulatory Review

In July 2012, the SSC met to specify an ABC for scup for fishing year 2013, and to consider specifying multi-year ABCs for up to three years. The SSC recommended three-year ABCs for scup, for 2013, 2014, and 2015 based on a constant fishing mortality rate.

The overfishing limit (OFL) for 2013 was 47.80 million lb (21,680 mt), defined by the fishing mortality threshold of F=0.177 and projected biomass in 2013 (432.63 million lb, 196,236 mt; 212% of SSB_{MSY}). Based on the 2012 projected SSB/SSB_{MSY} = 212%, Council risk policy P* = 0.4, and a lognormal distribution with of CV = 100%, the SSC set an ABC of 38.71 million lb (17,557 mt) for 2013. A constant fishing mortality rate approach was applied to derive the ABCs for 2014 and 2015. The fishing mortality rate associated with the 38.71 mil lb (17,557 mt) removal in 2013 was 0.142. This rate, applied in 2014 and 2015, resulted in ABCs of 35.99 mil lb (16,325 mt) and 33.77 mil lb (15,320 mt), respectively.

In September 2013, the SSC reviewed the existing multi-year ABCs for scup and determined that available scientific evidence was not compelling enough to warrant a change to its ABC recommendations for 2014 and 2015.

The SSC considered scup to be a level 3 assessment, and considered the following to be the most significant sources of uncertainty:

- While older age scup (age 3+) are represented in the catch used in the assessment model, most indices used in the model do not include ages 3+. As a result, the dynamics of the older ages of scup are driven principally by catches and inferences regarding year class strength;
- Uncertainty exists with respect to the estimate of natural mortality (M) used in the assessment;
- Uncertainty in the stock status results from uncertainties in the estimates of both the stock's biomass and the biological reference point proxy used for F_{MSY};
- The SSC assumed that OFL has a lognormal distribution with a CV = 100%, based on a meta-analysis of survey and SCA accuracies;

- Recruitment appears high in recent years, but it is unclear how these recent high levels would compare to historical levels of recruitment;
- Survey indices are particularly sensitive to scup availability, which results in high inter-annual variability;
- Uncertainties resulting from the application of trawl calibration coefficients (ALBATROSS IV vs BIGELOW) and their influence on the selectivity pattern and results of the assessment; and
- The projection on which the ABC was determined was based on an assumption that the quota would be landed in 2012, 2013, and 2014.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, GRAs, etc.) have remained generally constant in recent years with the exception of the increase in the Winter I possession limit from 30,000 lb in 2011 to 50,000 lb in 2012, and the increase in the Winter II possession limit from 2,000 lb in 2013 to 12,000 lb in 2014.

Basis for 2014 and 2015 ABC Recommendation

Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. Multi-year specifications were set for scup from 2013-2015, with the understanding that recent fishery data would be reviewed in interim years to identify any potentially critical issues in the fishery or problems with maintaining the implemented measures. Available data described in this memo as well as in the staff Fishery Information Document, the Advisory Panel Fishery Performance Report, and the Scup Data Update for 2014 do not suggest any major issues that would necessitate revising the current measures. Therefore, staff recommends scup catch limits and commercial management measures remain unchanged from those previously specified for 2015.

Other Management Measures

Recreational and Commercial ACLs

The acceptable biological catch (ABC) ABC is equivalent to the total allowable catch (TAC) and the sum of the commercial and recreational ACL equals the ABC (Figure 1).

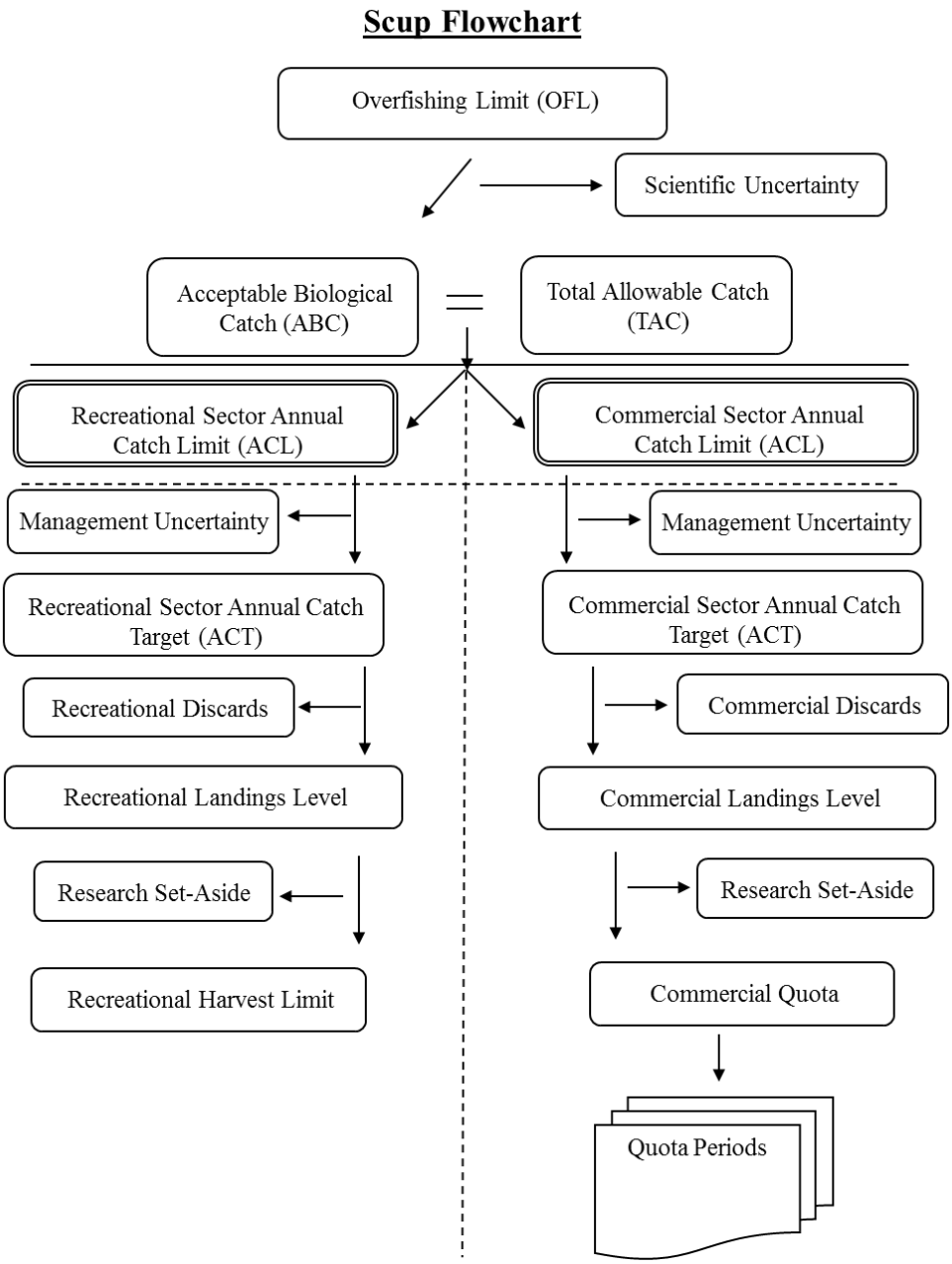

Figure 1: Flowchart for scup catch and landings limits.

The ABCs in place are comprised of both landings and discards. Based on the allocation percentages in the FMP, 78% of the catch is allocated to the commercial fishery, and 22% to the recreational. Discards were apportioned based on the contribution from each fishing sector using the 2009-2011 average ratios; 89% of the dead discards are attributable to the commercial fishery, 11% to the recreational (Table 1).

Annual Catch Targets

The Scup Monitoring Committee is responsible for recommending ACTs for the Council to consider. The relationship between the recreational and commercial ACTs and other catch components are given in Figure 1. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the MSA. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the scup fishery and providing the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty would be described and provided to the Council.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g. due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The recent year sector-specific landings performance indicates that although the recreational fishery had previously been exceeding the recreational harvest limits, in the three years following significant quota increases, the recreational fishery has been well under the harvest limits. The commercial fishery similarly has been well under the commercial quotas in recent years (Table 3). Staff recommends no modifications to the current ACTs, which are set equal to the sector-specific ACLs for 2015.

Table 3: Scup commercial and recreational fishery performance relative to quotas and harvest limits, 2009-2013.

Year	Commercial Landings (mil lb)	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	8.20	8.37	-2%	2.94	2.59	+14%
2010	10.73	10.68	0%	5.74	3.01	+91%
2011	15.03	20.36	-26%	3.66	5.74	-36%
2012	14.88	27.91	-47%	4.17	8.45	-51%
2013	17.88	23.53	-24%	5.34	7.55	-29%
5-yr Avg.	-	-	-20%	-	-	-2%

Commercial Quotas and Recreational Harvest Limit

The catch-based allocations (i.e., 78% commercial, 22% recreational) were maintained in the calculation of the sector-specific ACLs and ACTs such that the sum of the sector-specific TALs (total allowable landings) is equal to overall TAL (Table 1). Based on the implemented ACLs and ACTs given above and a 3% research set-aside deduction, the adjusted commercial quota in 2015 is 20.60 million lb (9,343 mt), and the adjusted recreational harvest limit is 6.60 million lb (2,991 mt).

The commercial quota is divided into three periods. These are Winter I (January-April; 45.11%), Summer (May-October; 38.95%), and Winter II (November-December; 15.94%). Therefore, the current

period quotas for 2014 are 9.29 million lb (4,214 mt) for Winter 1, 8.02 million lb (3,638 mt) for Summer, and 3.28 million lb (1,465 mt) for Winter II.

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2015 will not be determined until after the first four waves of 2014 recreational landings are reviewed. These data will be available in October of 2014. The Monitoring Committee will meet in November to review these landings data and make recommendations regarding any necessary changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational ACT while preventing the recreational ACL from being exceeded.

Possession Limits

The Winter I possession limit for 2014 is 50,000 lb, until 80 percent of the landings are reached, at which point the possession limit drops to 1,000 lb. This possession limit was first put in place in 2012, and represented an increase from the 2011 Winter I possession limit of 30,000 lb.

Effective in 2014, the Winter II possession limit has been increased to 12,000 lb, from the previous Winter II possession limit of 2,000 lb. This is an initial possession limit that increases if a transfer of quota occurs between Winter I and Winter II. In that case, the Winter II possession limit increases at 1,500 lb intervals for every 500,000 lb of scup transferred, i.e., if 1.0 million lb is transferred then the limit would be increased by 3,000 lb to result in a 15,000 lb possession limit. The possession limits were chosen as an appropriate balance between the economic concerns of the industry (i.e., landing enough scup to make the trip economically viable) and the need to ensure the equitable distribution of the quota over the period. Table 3 in the Advisory Panel Information Document summarizes the results of a threshold analysis giving the total number of vessels, trips, and landings for a given threshold (pounds of scup) in both winter periods of 2011-2013, as well as Winter I for 2014. These data indicate that since the implementation of the increased Winter I trip limit in 2012, there has been a moderate, steady increase in the number of trips and the number of associated pounds landed above the 30,000 lb threshold. However, trips landing scup in excess of 30,000 lb continue to comprise a very small percentage of overall trips in Winter I (0.3% of Winter I trips in 2013, and 0.4% of Winter I trips in 2014). The increased trip limit for the Winter II period was implemented in May 2014 and will be in place for Winter II in 2014. Based on this analysis, staff recommends no changes in possession limits in Federal waters.

Table 4 in the Scup AP Information Document gives commercial scup landings, ex-vessel value, and average price per pound, by period, for 2007 to 2013. A price-volume relationship for scup was described in Amendment 14 to the FMP. The increase in commercial supply in 2010 in response to less restrictive quotas may have driven the slight decrease in price in 2010. As such, managers should consider the potential impacts of changes in volume on price in the commercial fishery.

Commercial Gear Regulations and Minimum Fish Size

Amendment 8 to the Summer Flounder, Scup, and Black Sea Bass FMP contains provisions that allow for changes in the minimum fish size and minimum net mesh. Current commercial regulations for scup require a 9 inch-TL minimum fish size in the commercial fishery and the following gear requirements for

otter trawls: minimum mesh size of 5 inch for the first 75 meshes from the terminus of the net and for codends constructed with fewer than 75 meshes, a minimum mesh size of 5 inch throughout the net. The threshold level used to trigger the minimum mesh requirements is 500 lbs of scup from November 1 through April 30 and 200 lb or more of scup from May 1 through October 31. In 2005, the Scup Monitoring Committee reviewed information on discards and did not recommend changes to the regulations. Recent discard estimates have remained substantially lower than the large discard event in 2002 which occurred prior to the implementation of the current regulations. Therefore, staff does not recommend a change in the gear requirements for otter trawls.

In 2012, industry members proposed a reduction in the minimum fish size to 8 inch-TL. Staff remains concerned that a drop in the minimum fish size would reduce yields and spawning potential if smaller fish are targeted. In 2005, staff provided a supplemental memo that reviewed the available information on scup maturity, mesh selectivity, and discards. This information was reviewed and at the time, the Monitoring Committee did not recommend any changes based on this information. In 2012, the Monitoring Committee commented that a reduction to 8 inches would be unlikely to have a considerable impact on the assessment and spawning capacity, however, concerns remained at the Monitoring Committee and Council levels regarding the lack of discard data for the pot/trap and hook and line fisheries, potential for reduced spawning capacity, and possible increased targeting of smaller scup. As such, staff recommends no changes to the minimum fish size and net mesh requirements.

Gear Restricted Areas (GRAs)

Gear restricted areas (GRA) were implemented by NMFS in 2000 to reduce discards of scup in small mesh fisheries. The scup GRAs were originally implemented and previously modified through the specifications process. In 2000, they were modified in size to include areas farther south that were identified as areas of potential scup and *Loligo* interactions, and in 2005, the boundary of the southern GRA was moved 3 longitudinal minutes to the west based on recommendations from the Monitoring Committee. No modifications were made to the GRAs in 2006 through 2013. As described in Amendment 14 to the Summer Flounder, Scup, and Black Sea Bass FMP, modifications to scup GRAs must be done through a Framework Adjustment. In 2013, the Council initiated a Framework Adjustment to analyze potential modifications to the GRAs. Action on this Framework has been postponed until completion of the Council's Deep Sea Corals amendment due to potentially conflicting alternatives currently contained in each action.

Pots and Traps Escape Vents

Current regulations require a circular escape vent of 3.10 inch, a square escape vent of 2.25 inch, or a rectangular escape vent of an equivalent size. A Council and Commission sponsored workshop in 2005 reviewed several vent size studies and did not make any recommendations for changes as they relate to scup. Therefore, staff recommends no changes to escape vent size requirements in scup pots.