Scup Data Update for 2018

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Northeast Fisheries Science Center
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Woods Hole, MA 02543

Fishery and Survey Data

Reported 2017 landings in the commercial fishery were 7,007 mt = 15.448 million lbs, about 84% of the commercial quota (8,337 mt = 18.380 million lbs). Estimated 2017 landings in the recreational fishery were 2,462 mt = 5.428 million lbs, about 99% of the recreational harvest limit (2,495 mt = 5.501 million lbs). Total commercial and recreational landings in 2017 were 9,469 mt = 20.876 million lbs. Commercial fishery discards have been increasing since 2014, increased by 71% from 2016 to 2017, and were estimated at 4,727 mt (10.421 million lbs) in 2017, the highest since 1981. Most of the commercially discarded scup in 2017 were 16-18 cm age 2 fish from the large 2015 year class. Recreational discards were estimated at 407 mt = 0.897 million lbs in 2017. Total estimated commercial and recreational discards in 2017 were 5,134 mt = 11.313 million lbs. The total catch in 2017 was 14,603 mt = 32.194 million lbs, the highest since 1991, and about 13% above the 2017 ABC = 12,881 mt = 28.398 million lbs (Table 1, Figure 1).

The NEFSC fall 2015 and spring 2016 survey biomass indices were record highs for the time series, although both seasonal indices then decreased (Figures 2-4). The NEFSC 2017 fall survey did not sample the scup assessment strata, and so no 2017 fall index is available. The MADMF spring and fall 2017, RIDFW spring and fall 2016, URIGSO 2015-2017, CTDEP spring 2016-2017, NYDEC 2016-2017, and NEAMAP spring 2016 indices were also at or near record highs. NJDFW indices decreased during 2013-2017 (Figures 5-12). Some of the indices of recruitment (RIDFW, NYDEC, NEFSC; age 0 fish) indicate the recruitment of a large year class in 2015 (Figure 13). Measures of mean size, size-structure, and exploitation ratio (total fishery catch/survey biomass index) from the NEFSC trawl surveys are presented in Figures 14-19.

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 (2004-2017 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	4,495	3,116	59	17,526
1982	8,704	3,970	2,791	53	15,518
1983	7,794	3,555	3,353	63	14,765
1984	7,769	3,543	1,296	33	12,641
1985	6,727	3,068	3,268	60	13,123
1986	7,176	3,273	6,223	97	16,769
1987	6,276	2,862	3,323	42	12,504
1988	5,943	2,710	2,289	35	10,977
1989	3,984	1,277	2,980	43	8,285
1990	4,571	2,466	2,220	42	9,299
1991	7,081	3,388	4,336	87	14,892
1992	6,259	1,885	2,366	52	10,562
1993	4,726	1,510	1,714	31	7,981
1994	4,392	962	1,409	41	6,804
1995	3,073	974	720	14	4,781
1996	2,945	870	1,156	22	4,993
1997	2,188	675	642	9	3,514
1998	1,896	705	469	16	3,086
1999	1,505	735	1,012	7	3,259
2000	1,207	592	2,919	61	4,779
2001	1,729	1,671	2,285	184	5,869
2002	3,173	1,284	1,944	152	6,553
2003	4,405	436	4,549	176	9,566
2004	4,209	1,324	3,278	182	8,993
2005	3,711	565	1,215	270	5,761
2006	4,081	896	1,681	426	7,084
2007	4,193	1,363	2,085	346	7,987
2008	2,370	1,693	1,713	287	6,062
2009	3,721	3,189	1,462	211	8,583
2010	4,866	2,638	2,715	318	10,537
2011	6,819	1,234	1,632	173	9,858
2012	6,751	1,029	1,842	231	9,853
2013	8,105	1,279	2,464	224	12,072
2014	7,239	1,004	2,124	229	10,596
2015	7,725	1,774	2,295	226	12,020
2016	7,147	2,772	1,932	354	12,205
2017	7,007	4,727	2,462	407	14,603

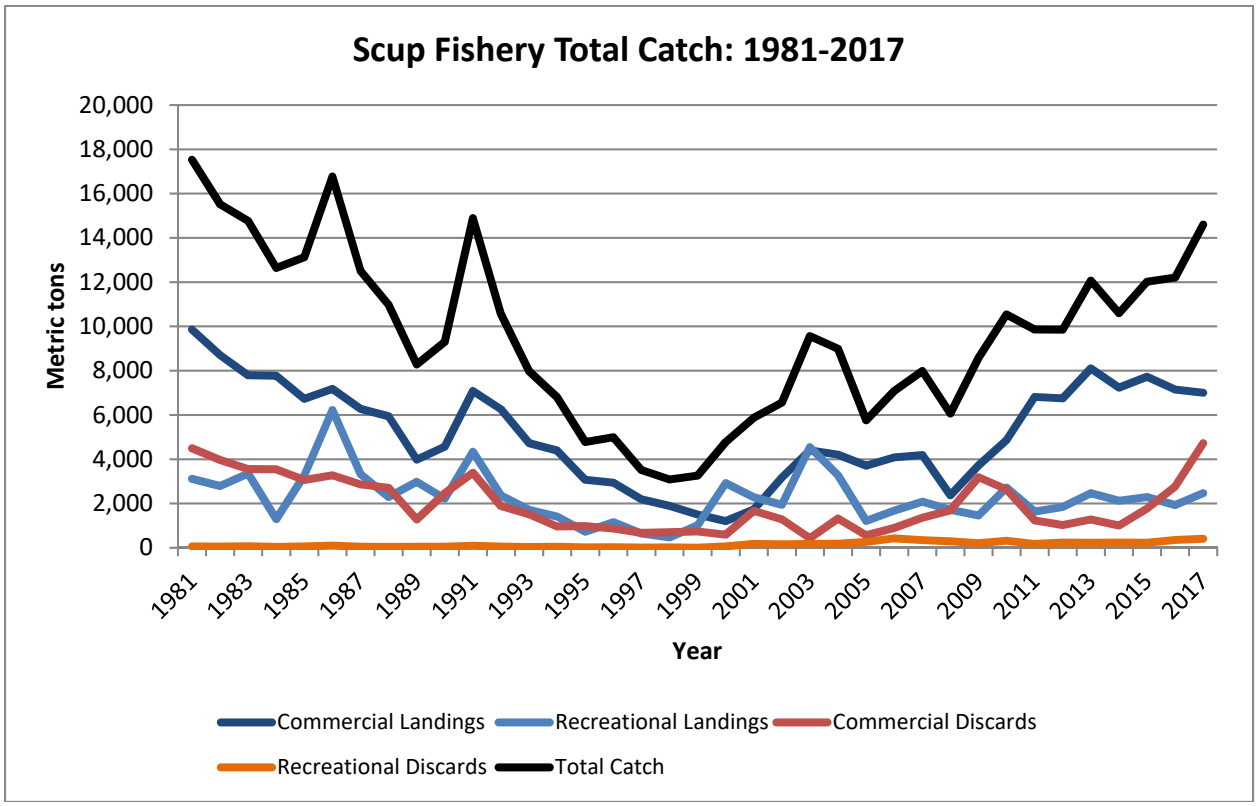

Figure 1. Scup fishery total catch.

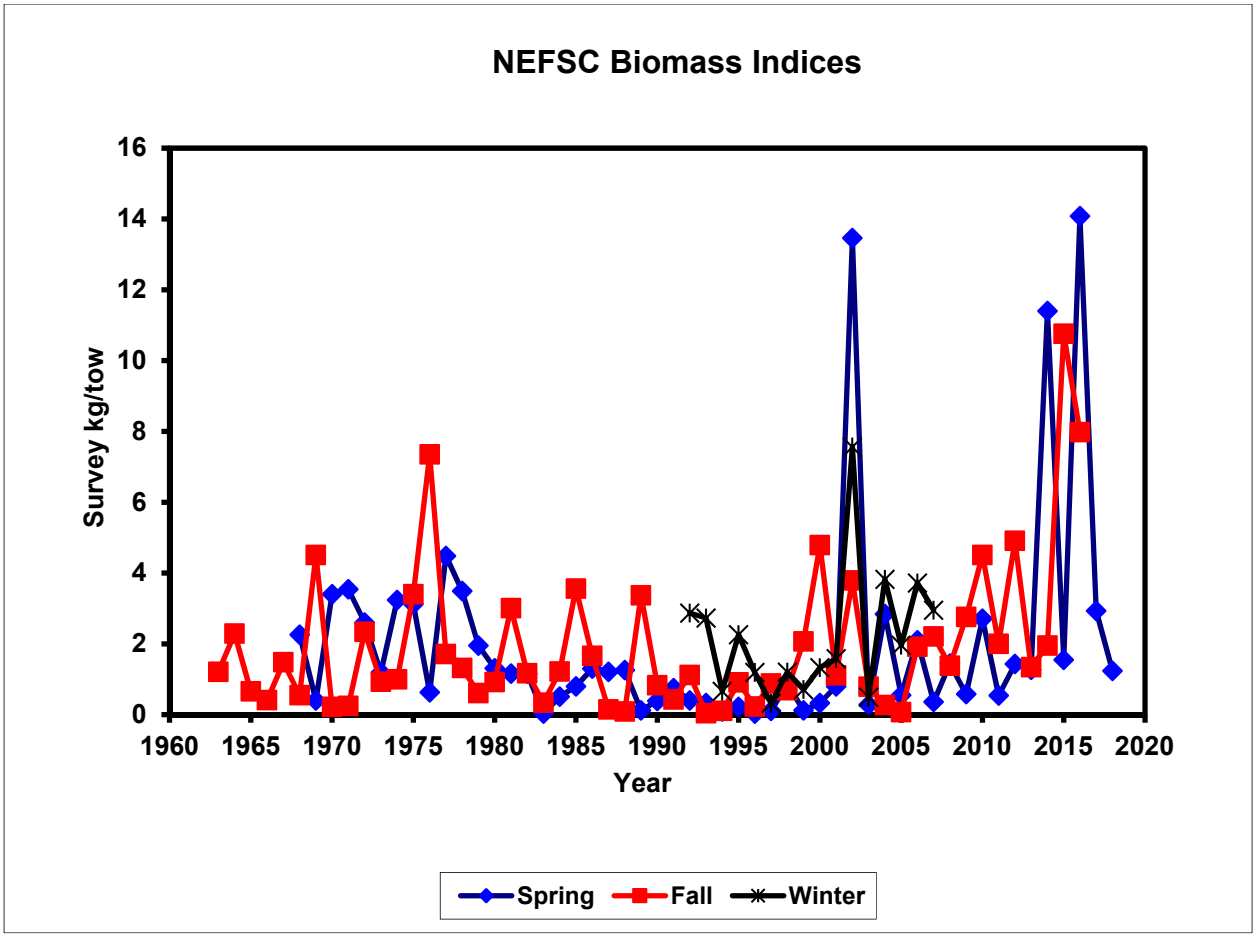

Figure 2. NEFSC trawl survey biomass indices for scup.

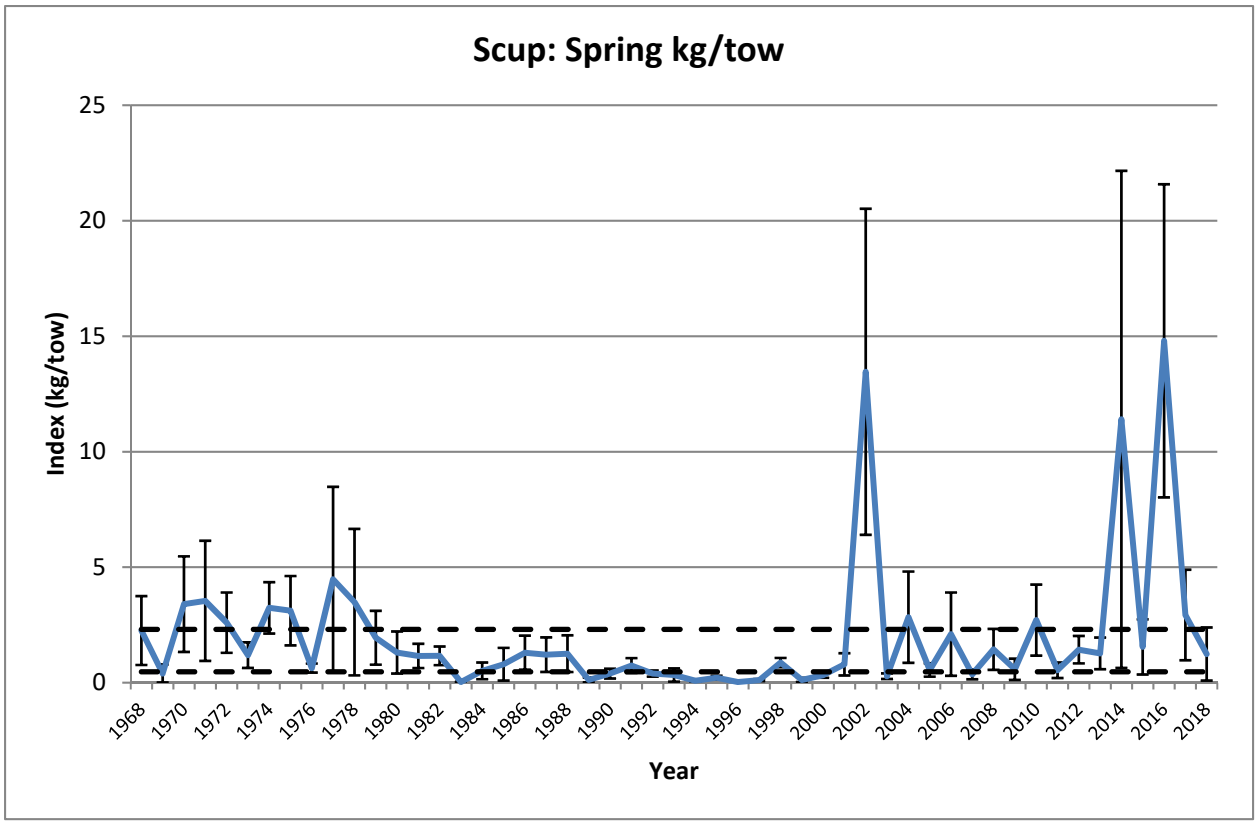

Figure 3. NEFSC spring trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

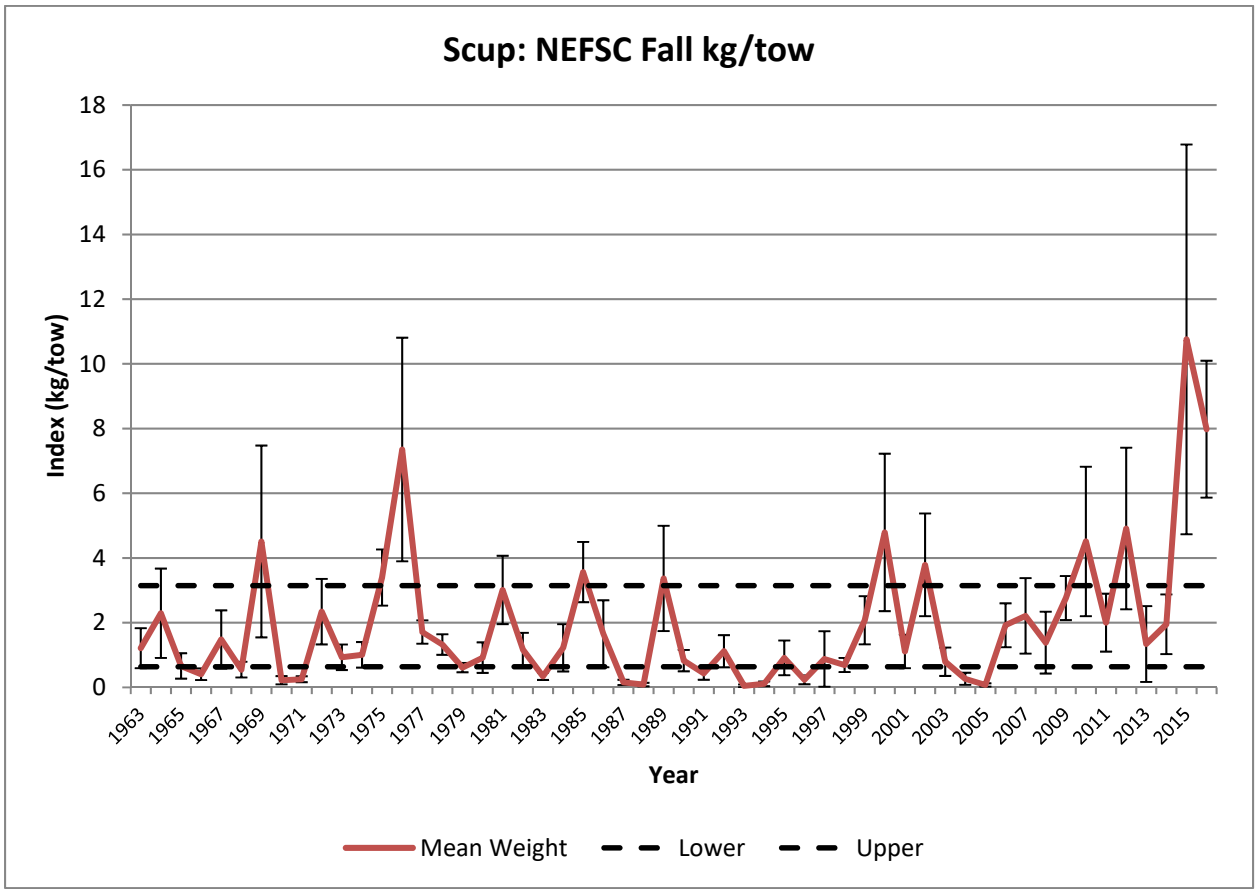

Figure 4. NEFSC fall trawl survey biomass indices for scup. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

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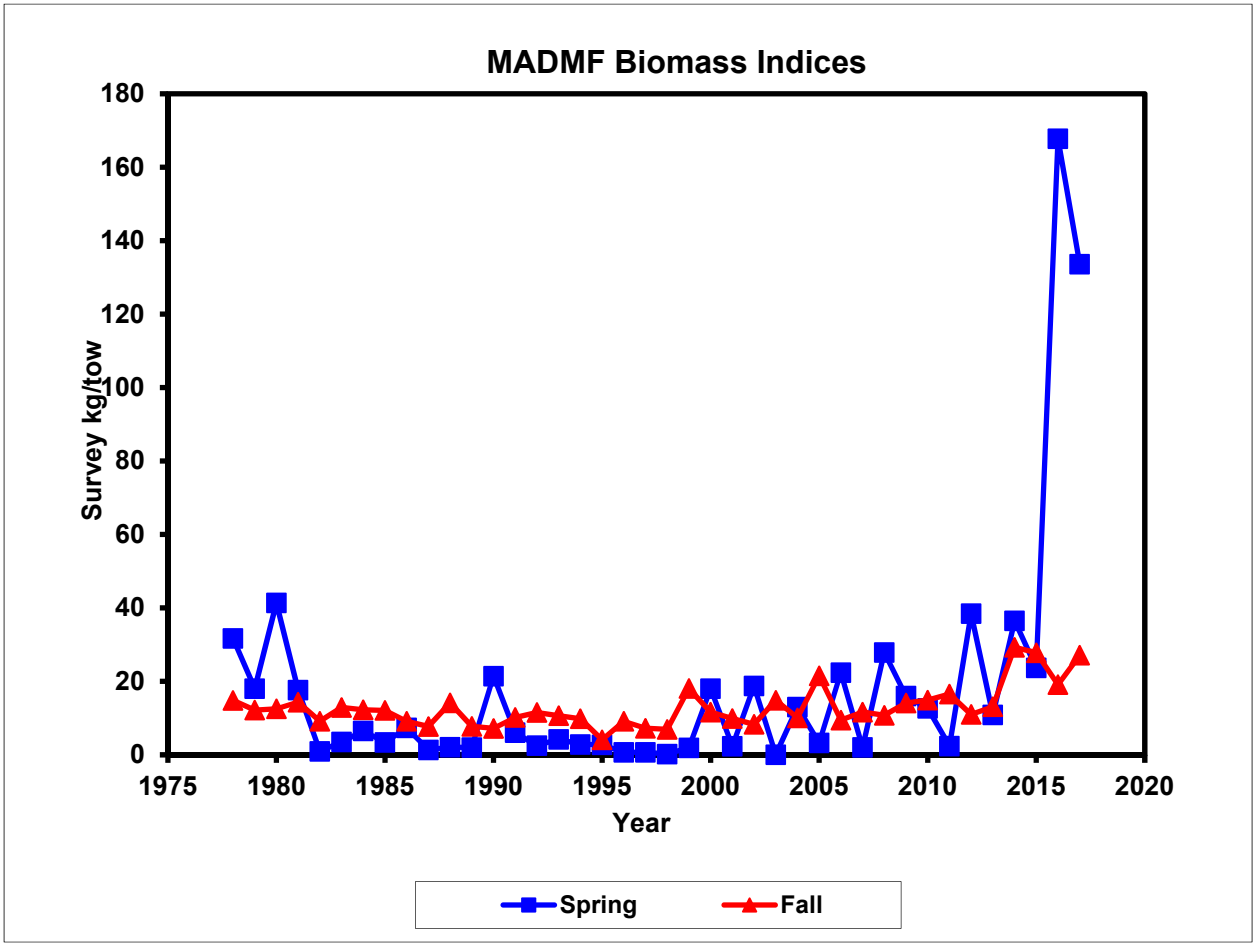

Figure 5. MADMF trawl survey indices for scup.

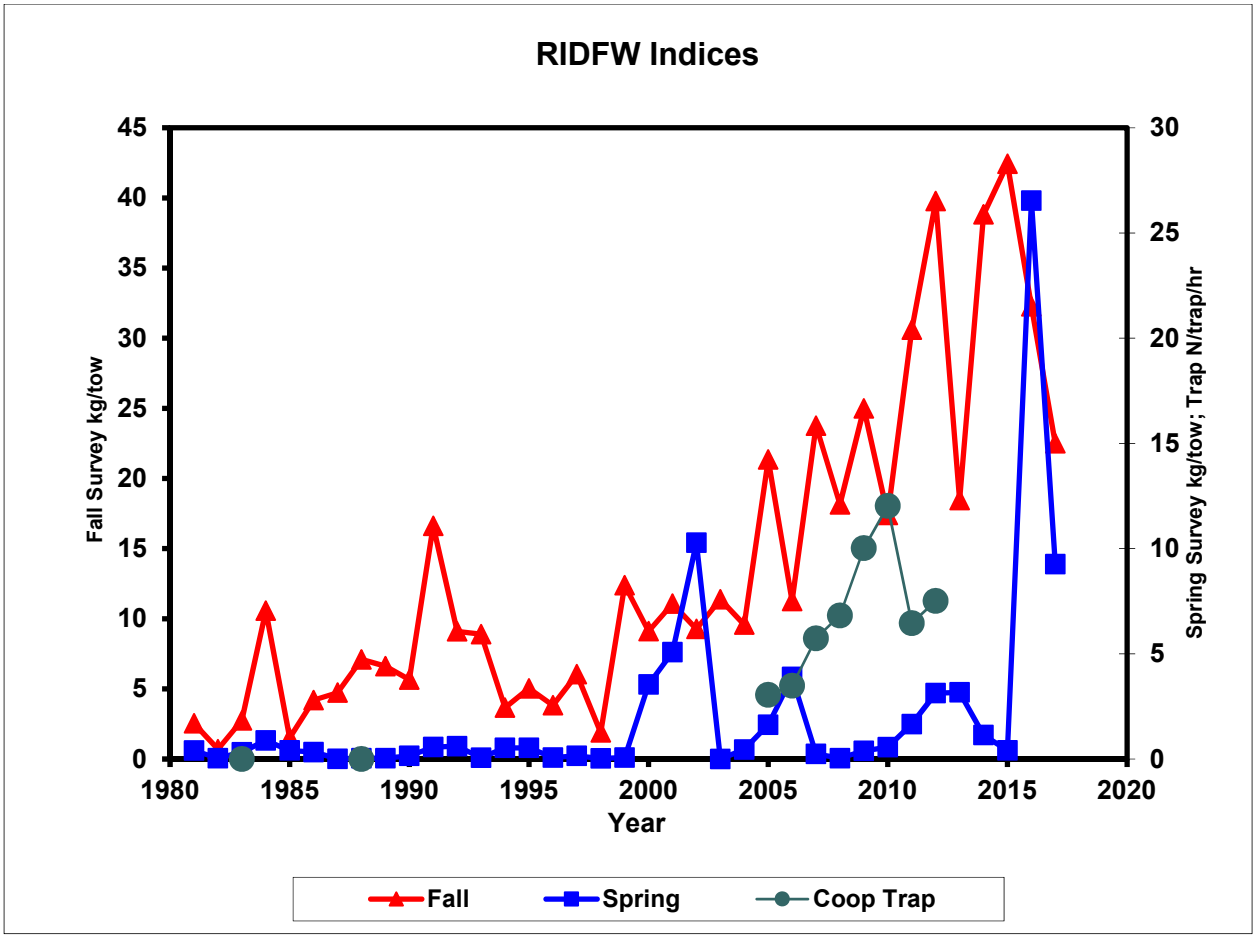

Figure 6. RIDFW trawl and trap survey indices for scup. The Cooperative trap survey ended in 2012.

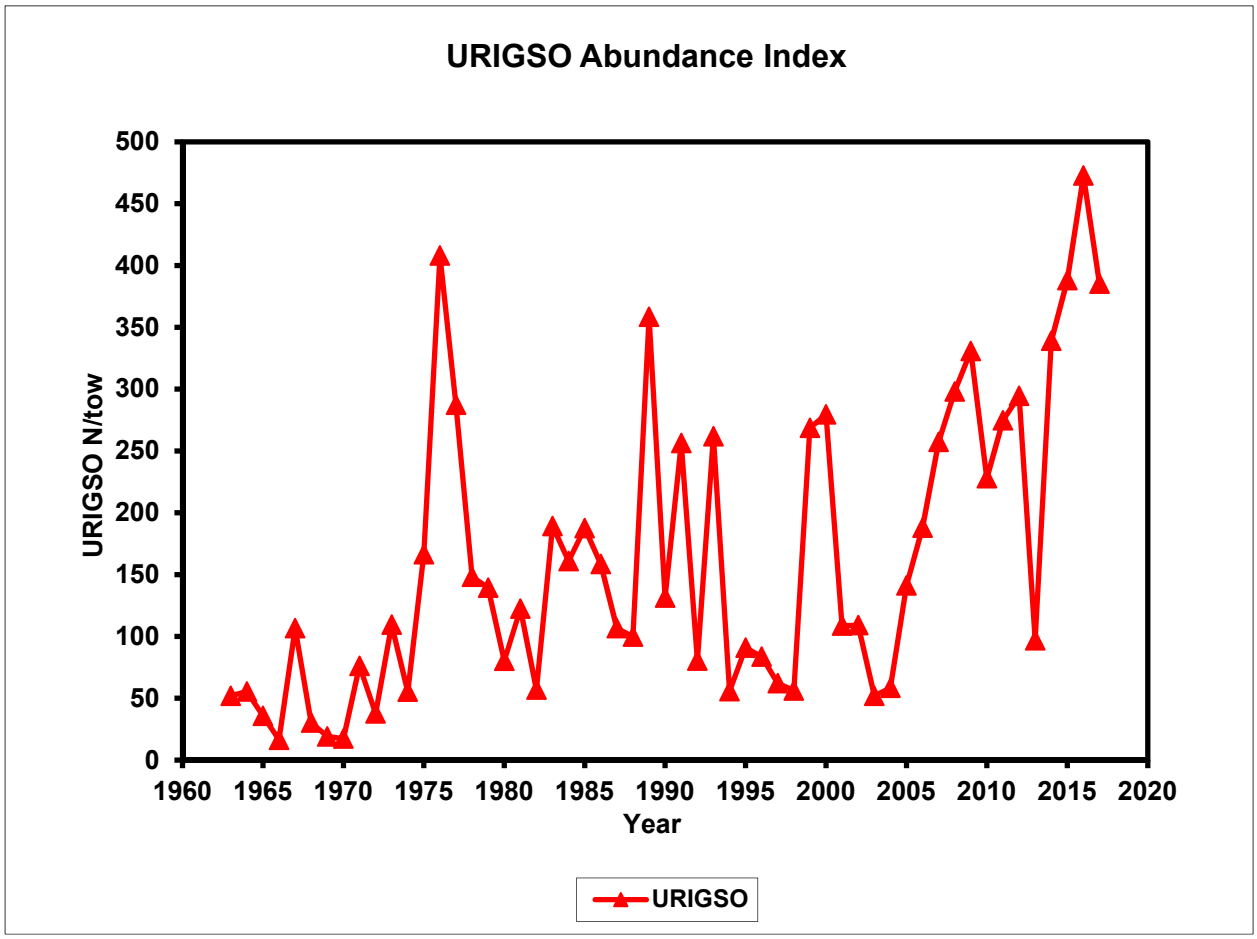

Figure 7. URIGSO trawl survey indices for scup.

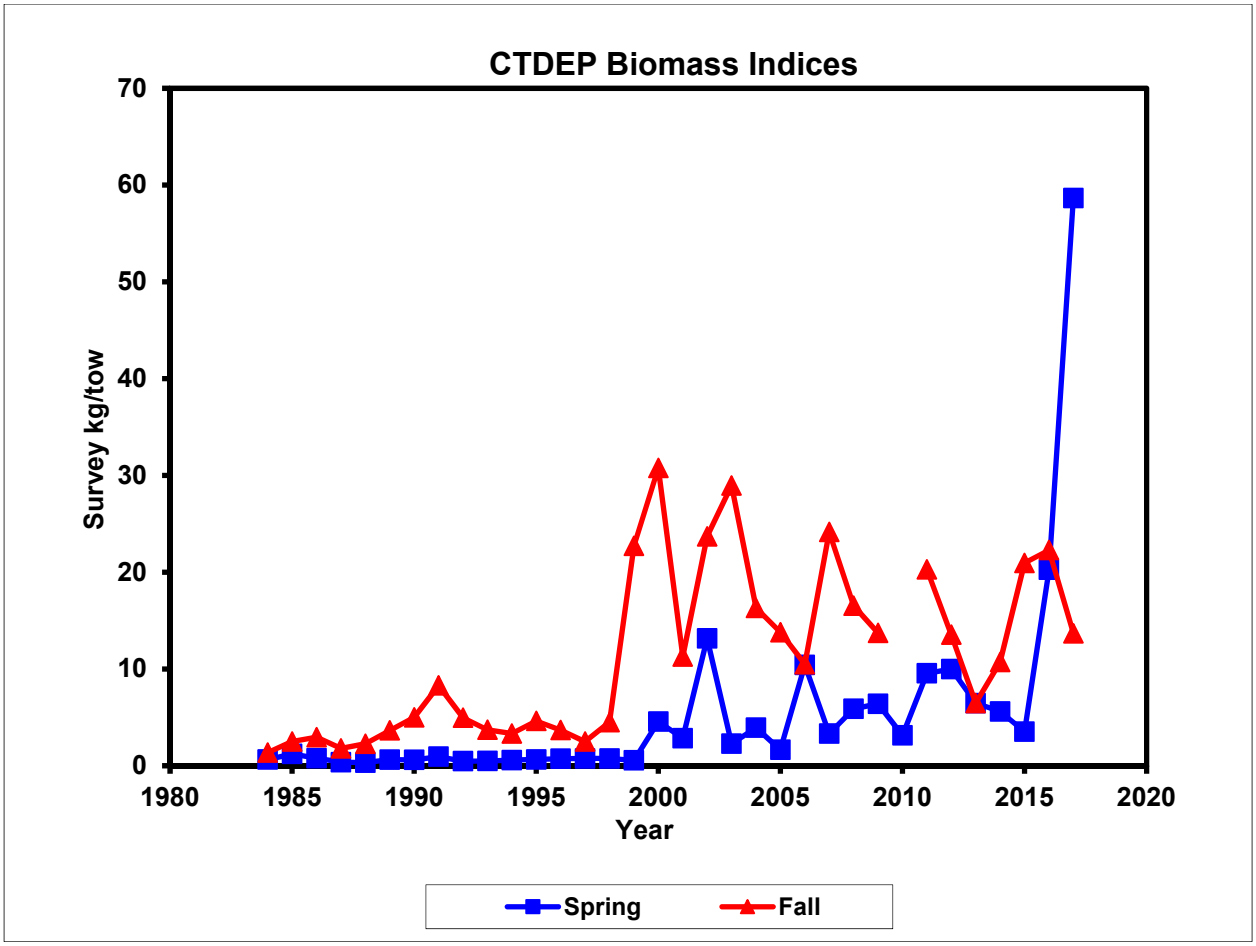

Figure 8. CTDEP trawl survey indices for scup.

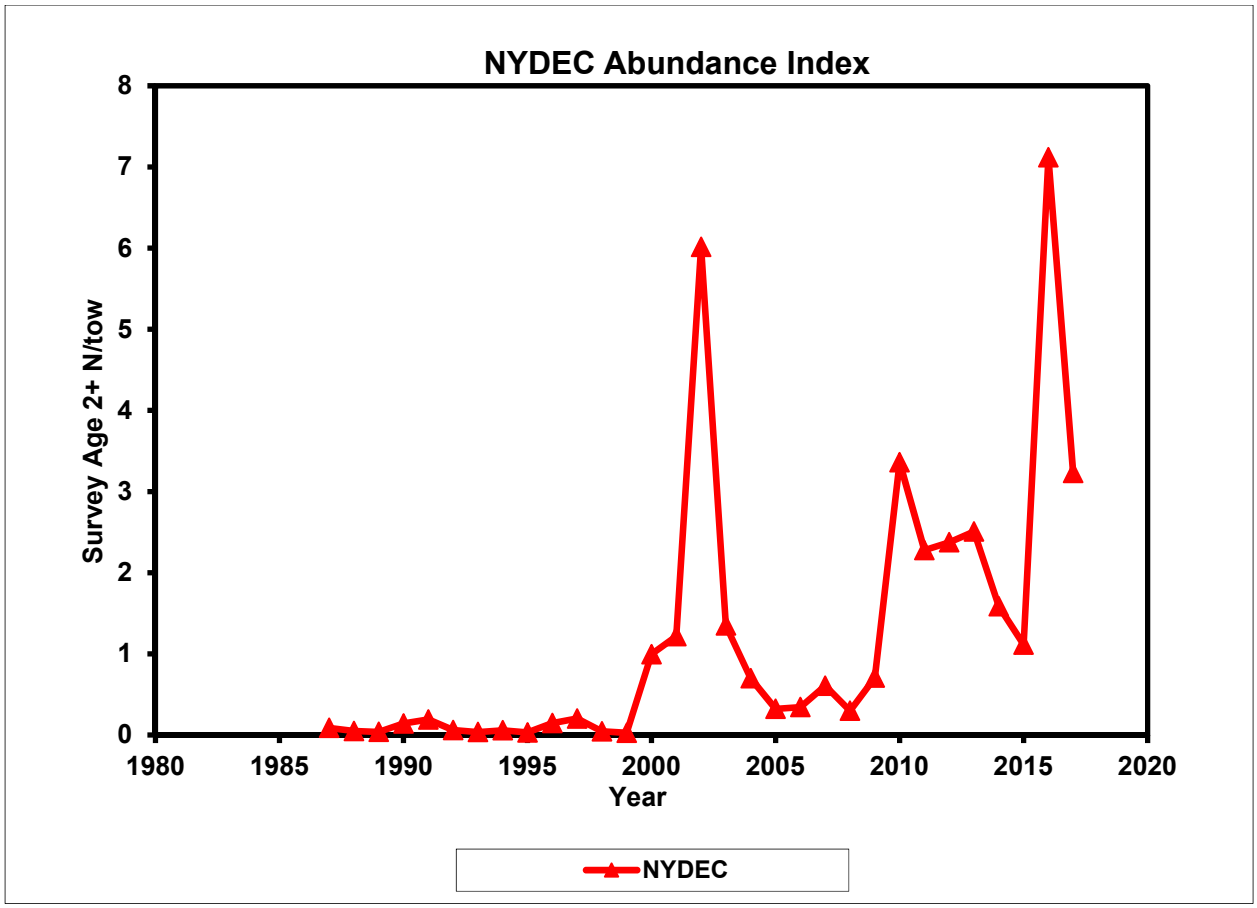

Figure 9. NYDEC trawl survey indices for scup.

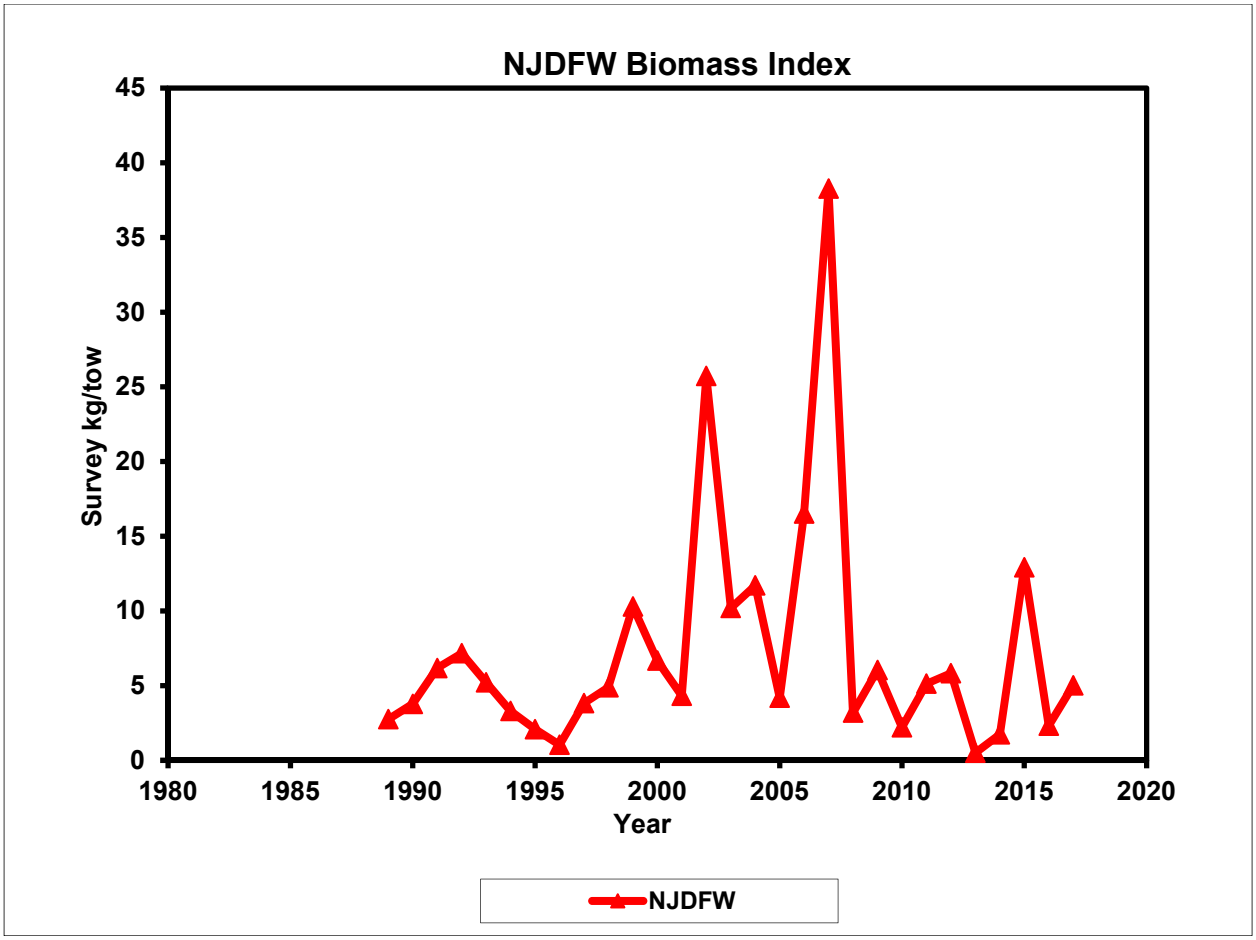

Figure 10. NJDMF trawl survey indices for scup.

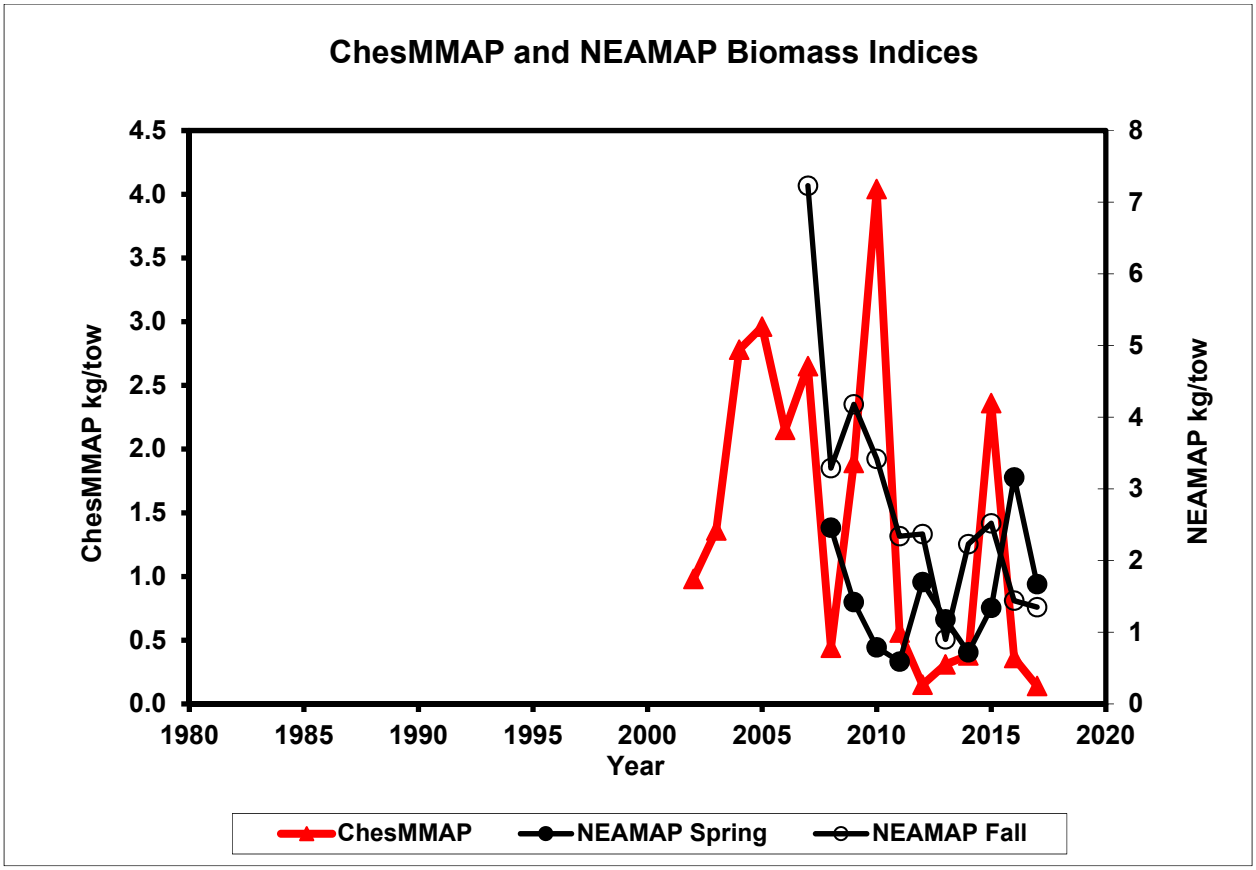

Figure 11. VIMS (ChesMMAP and NEAMAP) trawl survey indices for scup.

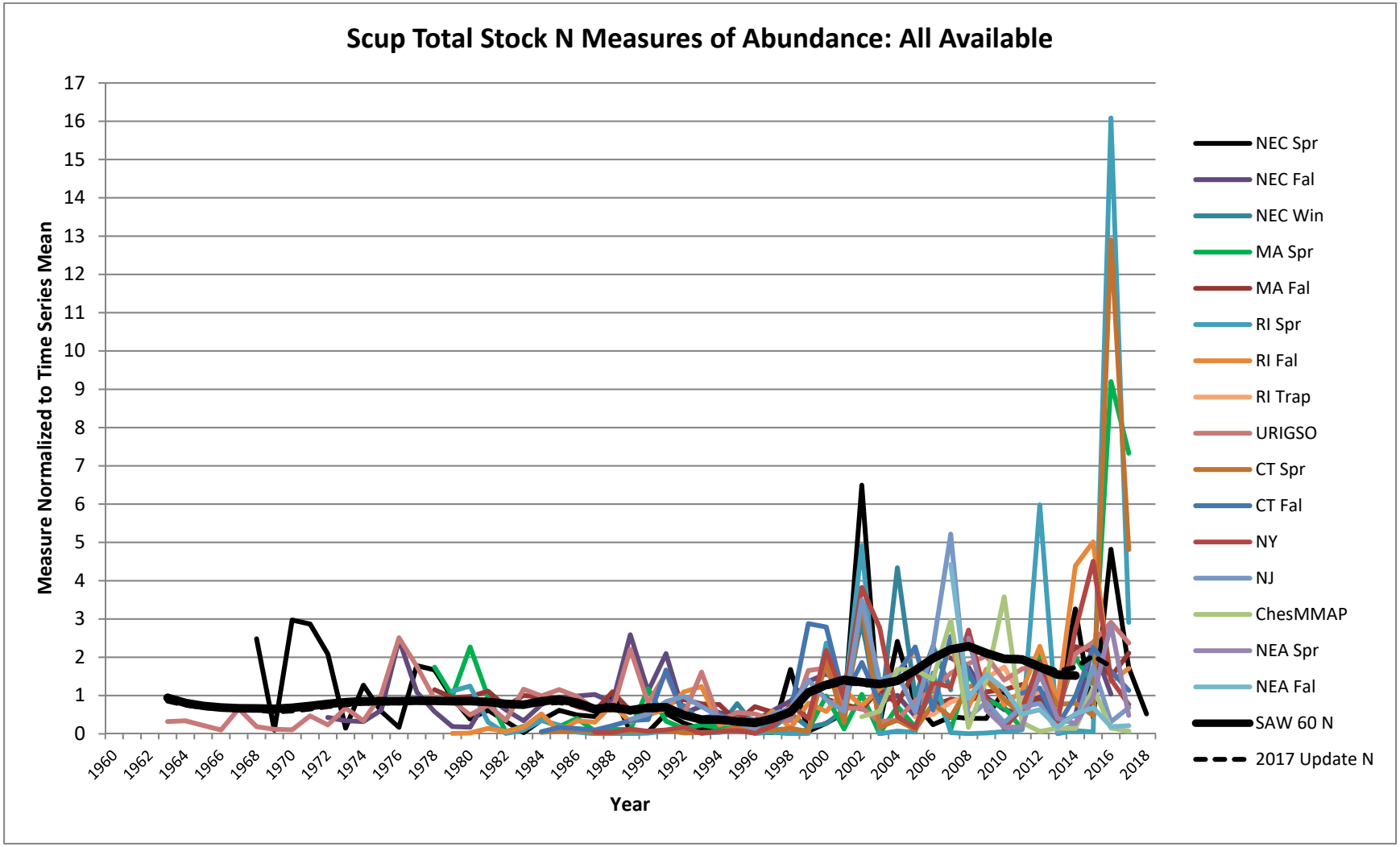

Figure 12. Measures of scup aggregate numeric abundance. Indices normalized to time series means.

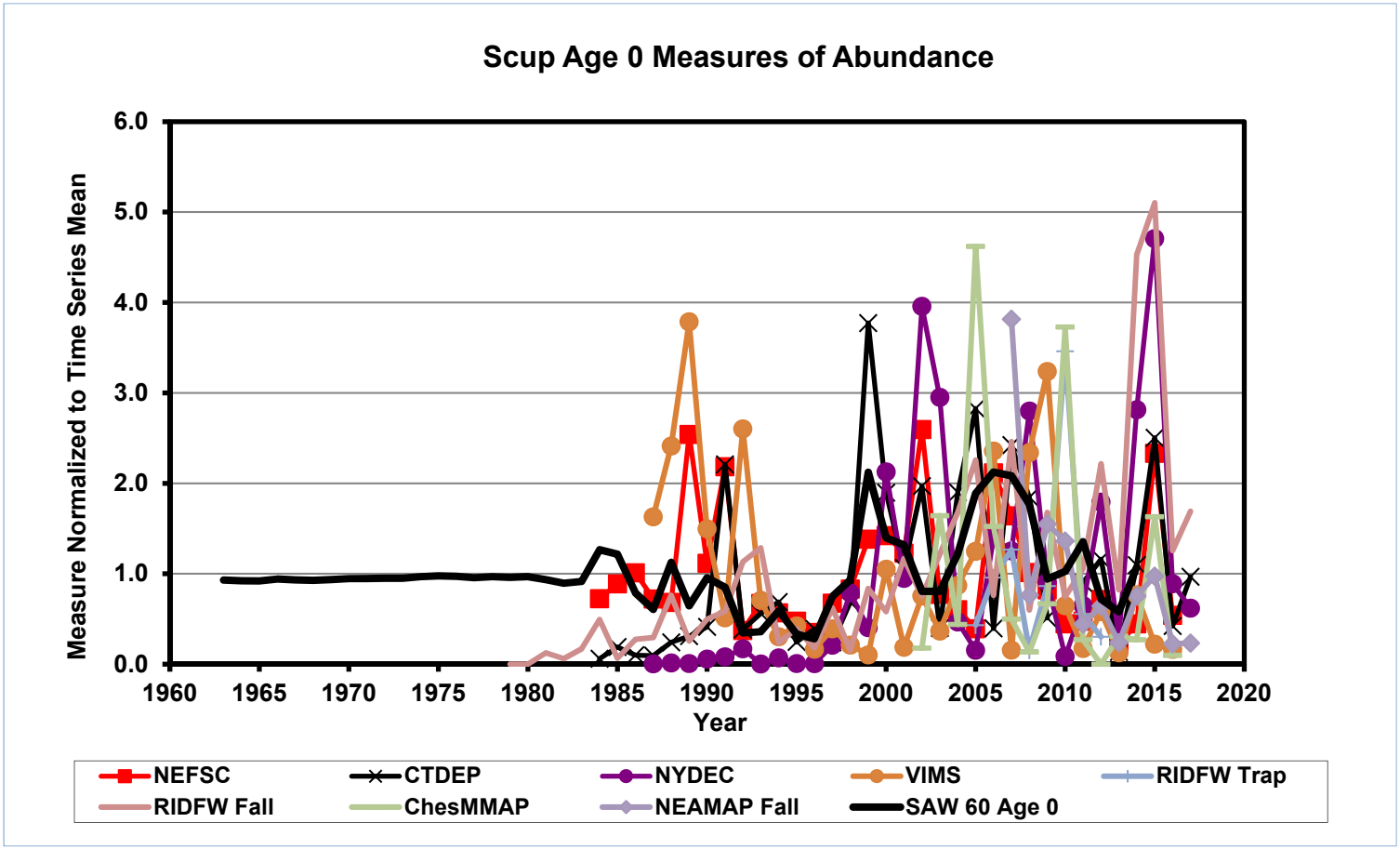

Figure 13. Measures of scup age 0 abundance. Indices normalized to time series means.

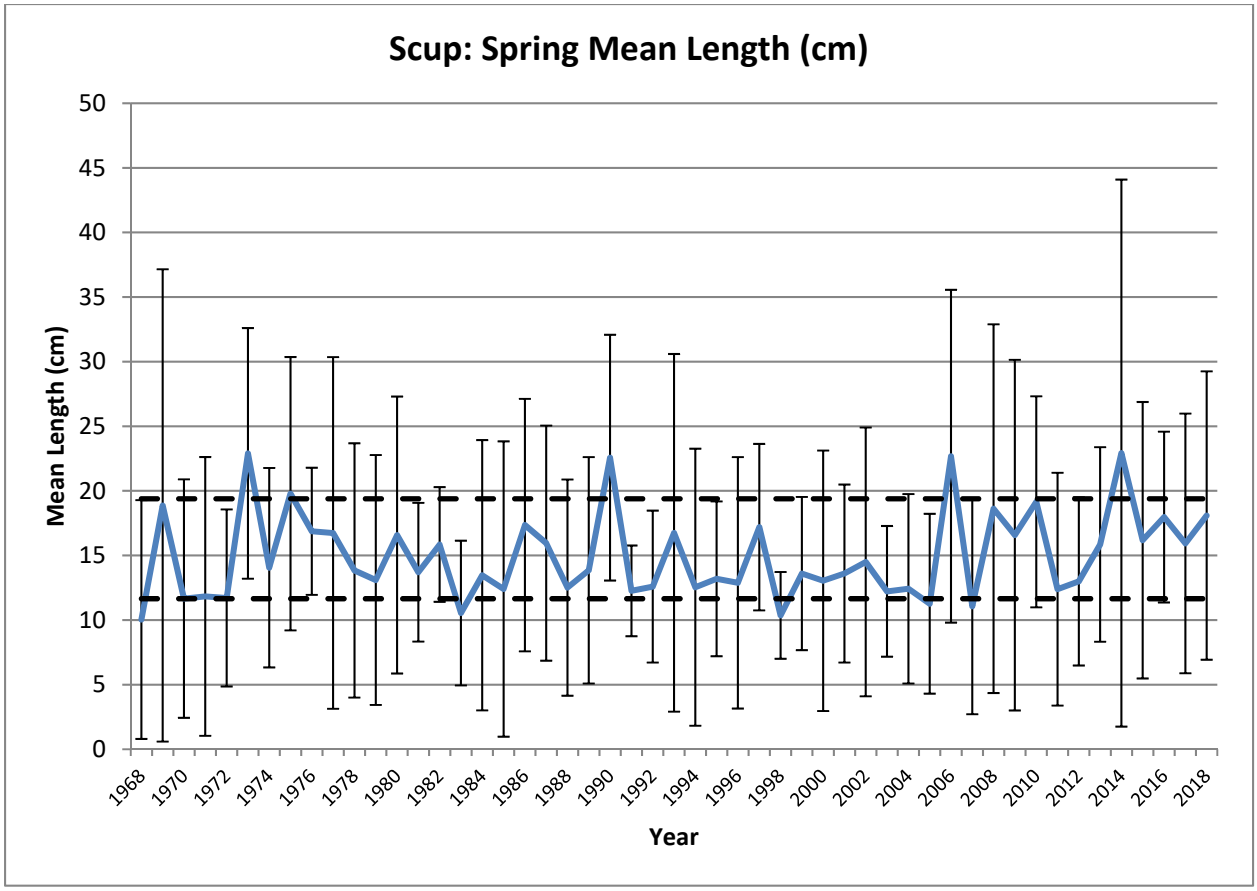

Figure 14. Trend in mean length of the NEFSC Spring survey catch. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

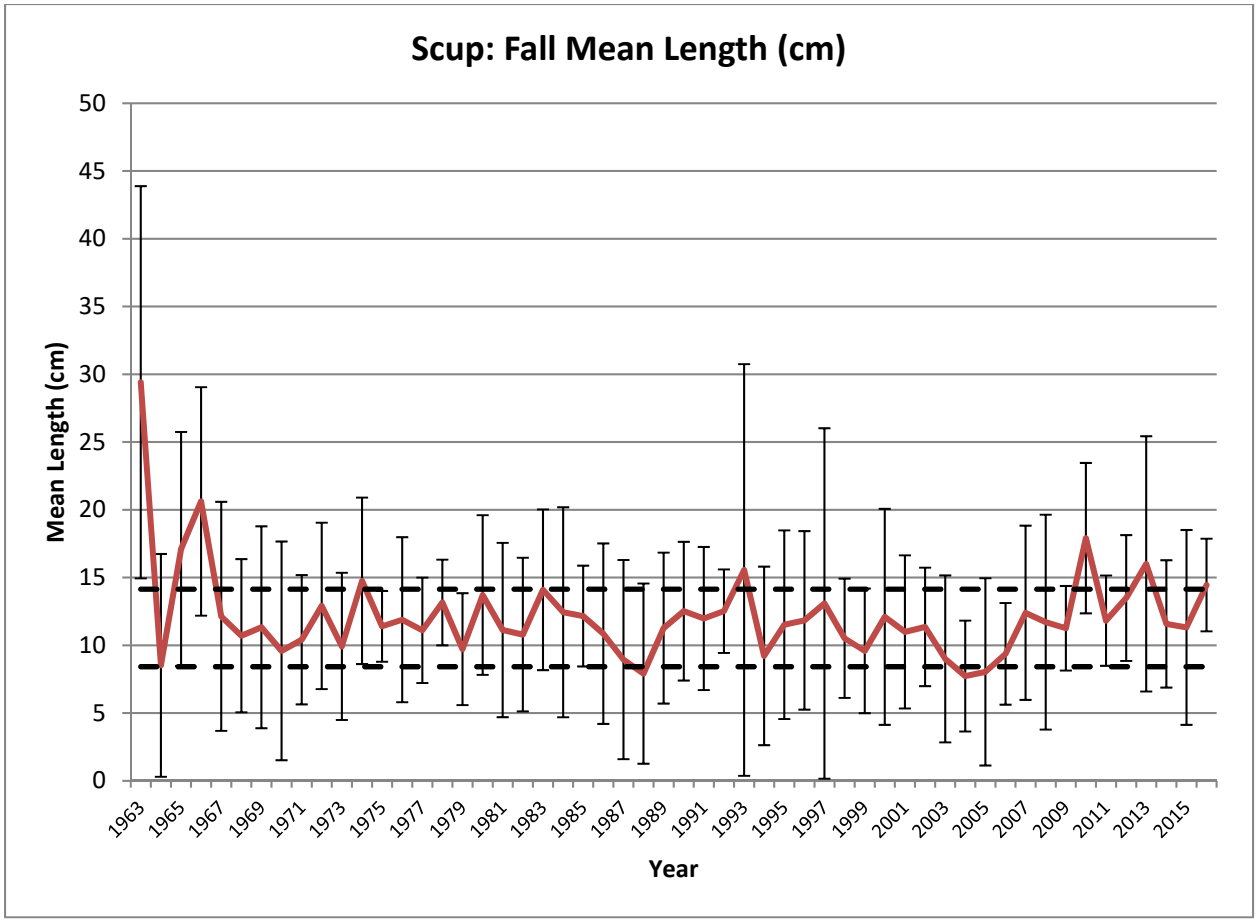

Figure 15. Trend in mean length of the NEFSC Fall survey catch. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

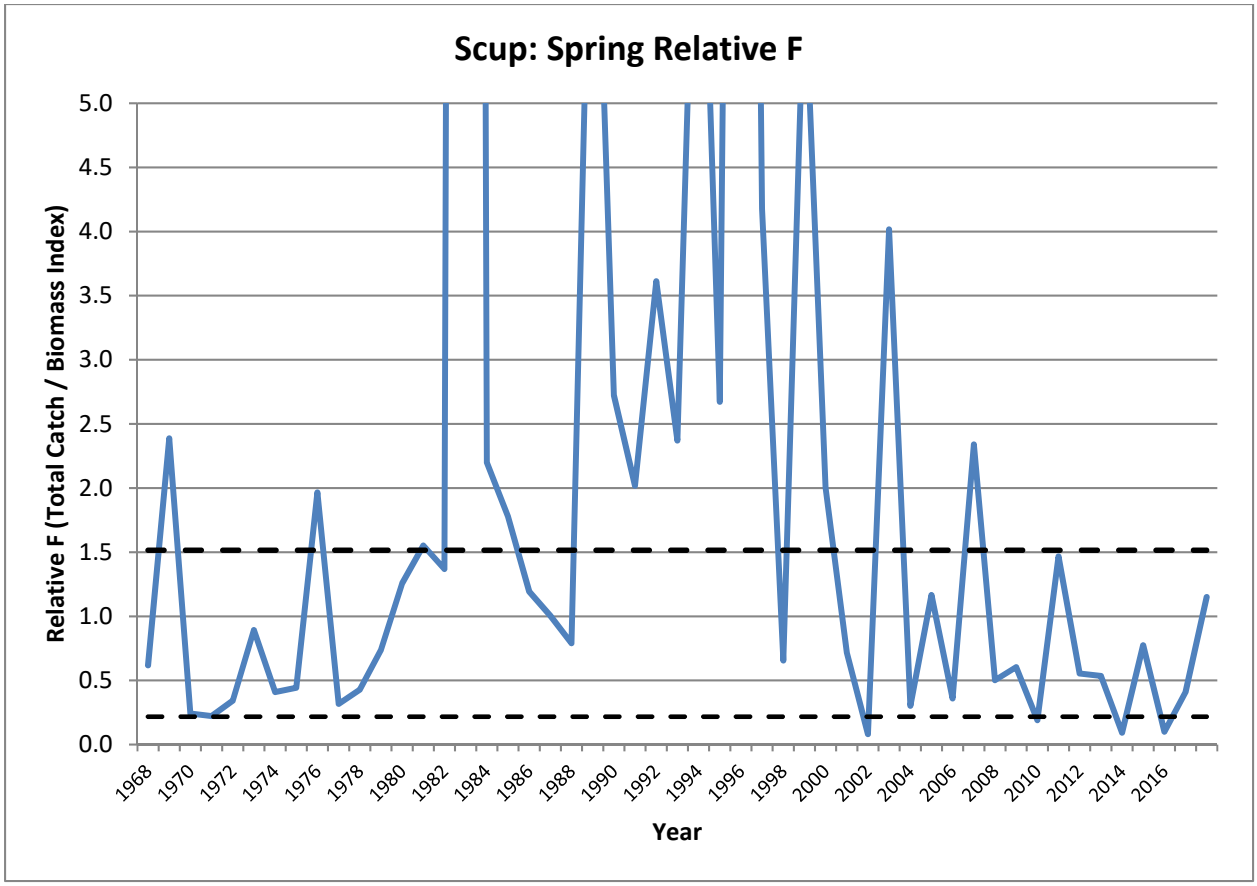

Figure 18. Trend in exploitation ratio based on total fishery catch and the NEFSC Spring survey biomass index Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

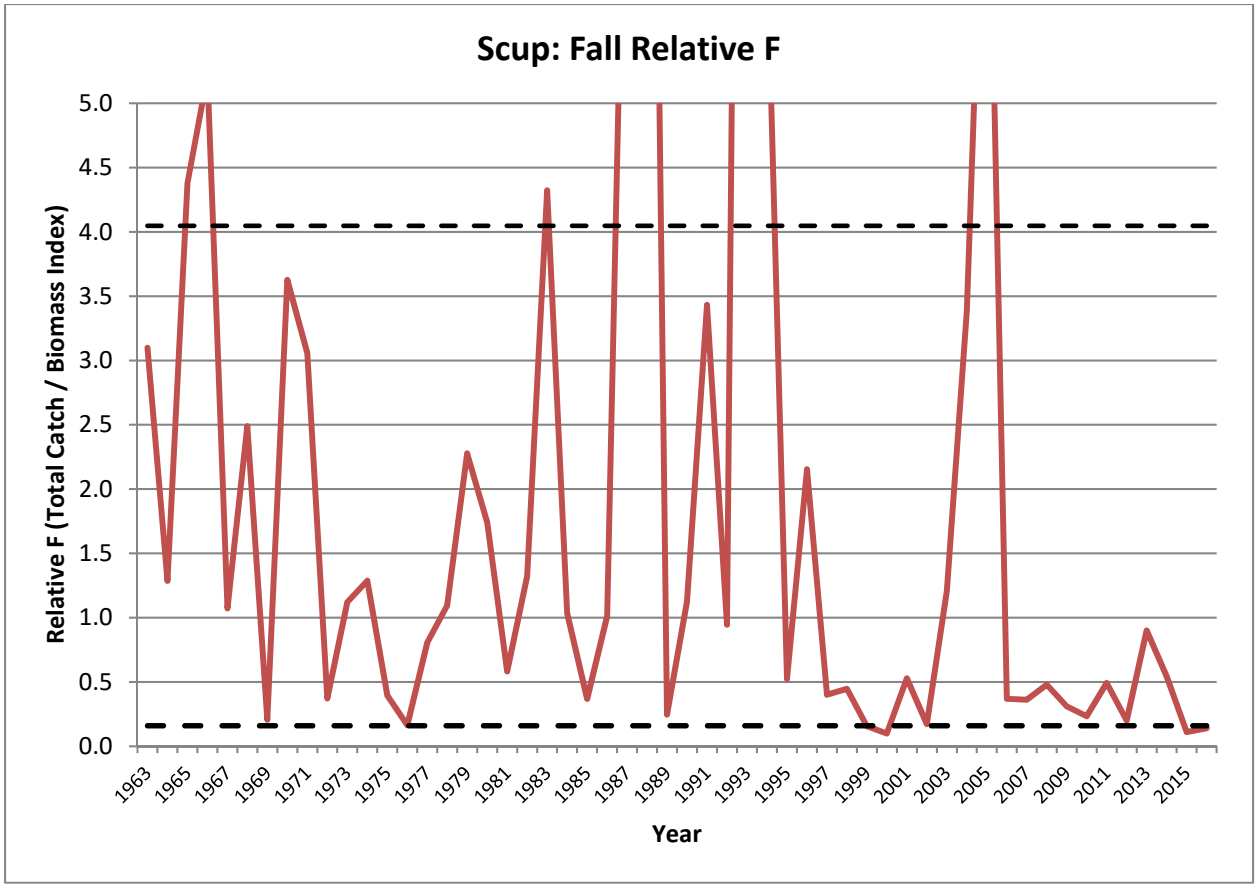

Figure 19. Trend in exploitation ratio based on total fishery catch and the NEFSC Fall survey biomass index Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 65% confidence intervals around the 2004-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.