



Summer Flounder Advisory Panel Information Document¹

June 2014

Management System

The Fishery Management Plan (FMP) for summer flounder became effective in 1988, and established the management unit for summer flounder (*Paralichthys dentatus*) as the U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border. The FMP also established measures to ensure effective management of the summer flounder resource. There are two management entities that work cooperatively to develop fishery regulations for this species: 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. This 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. Summer flounder was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2011. The Summer Flounder FMP, including subsequent Amendments and Frameworks, are available on the Council website at: <http://www.mafmc.org/fisheries/fmp/sf-s-bsb>.

Basic Biology

Detailed information on summer flounder life history and habitat requirements can be found in the document titled "Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics" (Packer et al. 1999), available at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. Information contained in that document is summarized below.

Summer flounder spawn during the fall and winter over the open ocean areas of the continental shelf. From October to May, larvae and postlarvae migrate inshore, entering coastal and estuarine nursery areas. Juveniles are distributed inshore and in many estuaries throughout the range of the species during spring, summer, and fall. Adult summer flounder exhibit strong seasonal inshore-offshore movements, normally inhabiting shallow coastal and estuarine waters during the warmer months of the year and remaining offshore during the colder months.

¹Data 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.

Summer flounder habitat includes pelagic waters, demersal waters, saltmarsh creeks, seagrass beds, mudflats, and open bay areas from the Gulf of Maine through North Carolina. They are opportunistic feeders, and their prey includes a variety of fish and crustaceans. While the natural predators of adult summer flounder are not fully documented, larger predators (e.g., large sharks, rays, and monkfish) probably include summer flounder in their diets.

Male and female growth rates vary substantially, with males growing more slowly. Males rarely live longer than 10 years, whereas females may live for up to 20 years (Bolz et al. 1999) and attain weights of about 25 lbs. Based on an analysis of NEFSC Fall Survey maturity data from 1992-1997, the median length at maturity (50th percentile, L_{50}) was estimated as 27.0 cm (10.6 inches) for male summer flounder, 30.3 cm (11.9 inches) for female summer flounder, and 27.6 cm (10.9 inches) for the sexes combined (NEFSC 2008). The median age of maturity (50th percentile, A_{50}) for summer flounder was determined to be 1.1 years for males, 1.4 years for females, and 1.2 years for both sexes combined (NEFSC 2008).

Status of the Stock

An age-structured assessment program (ASAP) was used in the 2013 peer-reviewed summer flounder stock benchmark stock assessment (57th Stock Assessment Workshop; NEFSC 2013). The final report, as well as the Stock Assessment Review Committee (SARC) panelist reports, is available online at the NEFSC website: <http://www.nefsc.noaa.gov/saw/reports.html>. Previous stock assessment reports, assessment updates, and peer review panelist reports are also available at the site above.

The 2013 benchmark assessment indicated that the summer flounder stock was not overfished or subject to overfishing in 2012, relative to the new biological reference points derived from the SAW 57 assessment. Fishing mortality (F) was estimated to be 0.285 in 2012, below the updated threshold fishing mortality reference point of $F_{MSY} = 0.309$ (Figure 1). Spawning Stock Biomass (SSB) was estimated to be 113.0 million lb (51,238 mt) in 2012, 18% below the updated $SSB_{MSY} = 137.6$ million lb (62,394 mt).

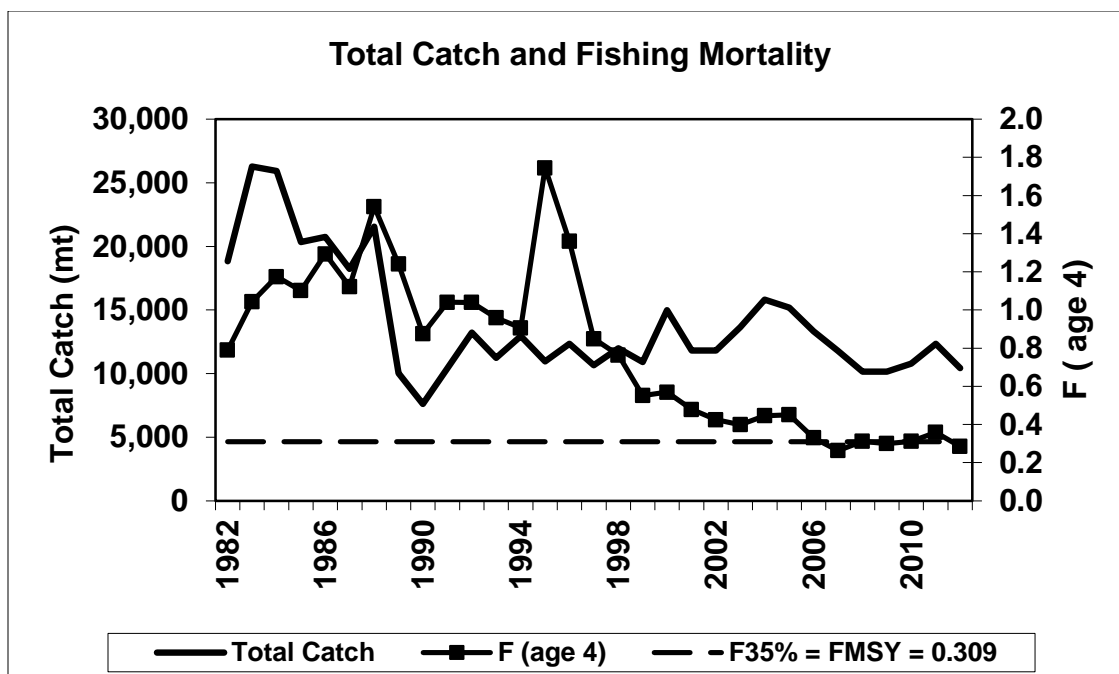


Figure 1: Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder. The horizontal dashed line is the 2013 SAW/SARC57 fishing mortality reference point proxy. Source: NEFSC 2013.

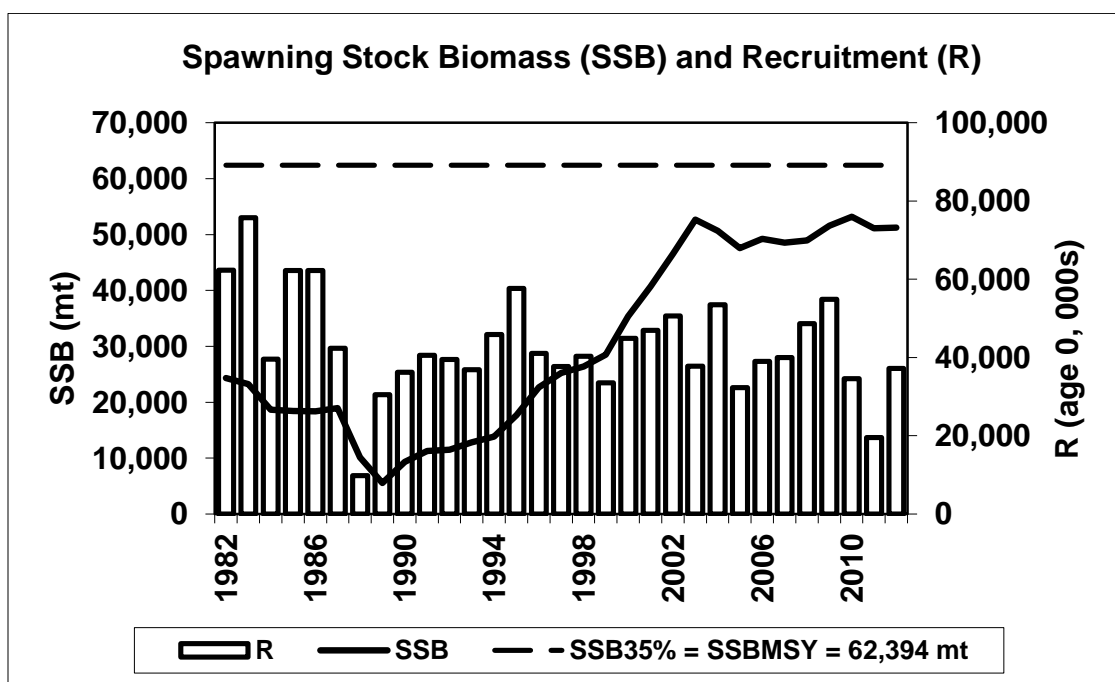


Figure 2: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW/SARC57 biomass reference point proxy. Source: NEFSC 2013.

Fishery Performance

There are significant commercial and recreational fisheries for summer flounder. The summer flounder stock is managed primarily using output controls (catch and landings limits), with 60 percent of the landings being allocated to the commercial fishery as a commercial quota and 40 percent allocated to the recreational fishery as a recreational harvest limit.

Table 1 summarizes the summer flounder management measures for the 2003-2015 fishing years. Acceptable biological catch (ABC) levels have been identified for this stock since 2009, 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 declined in the early 1980's, dropping to a low of 14.4 million lb in 1990, and in 2013 were about 19.6 million lb total (Figure 3).

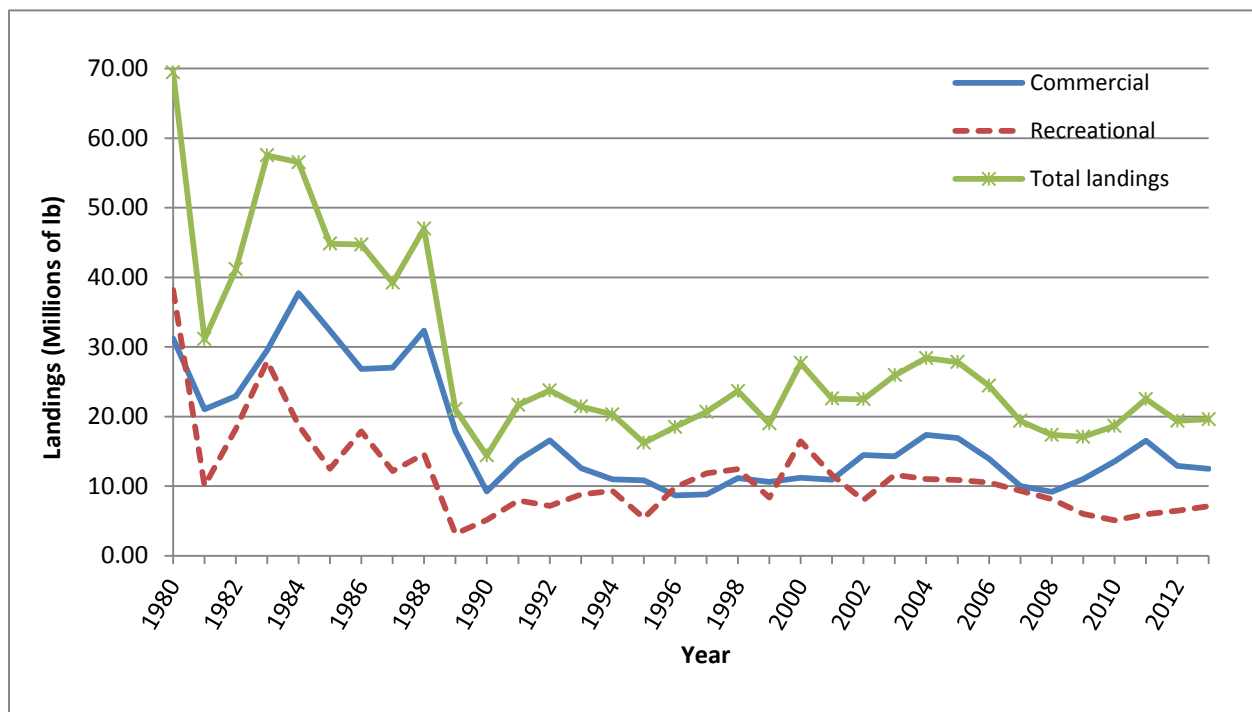


Figure 3: Commercial and Recreational U.S. Summer Flounder Landings (Pounds) from Maine-North Carolina, 1980-2013.

Table 1: Summary of summer flounder management measures and landings for 2003 through 2015.

Management measures	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 ^a
ABC (m lb)	NA	NA	NA	NA	NA	NA	21.50	25.5	33.95	25.58	22.34	21.94	22.77
TAC (m lb)	NA	NA	NA	NA	NA	NA	20.90	25.5	33.95	25.58	22.34	21.94	22.77
Commercial ACL	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.00	12.11	12.87	13.34
Com. quota-adjusted (m lb) ^b	13.87	16.76	17.90	13.94	9.79	9.32	10.74	12.79	17.38	12.73	11.44	10.51	10.77
Com. landings	14.30	17.37	16.91	13.92	10.02	9.21	11.05	13.55	16.57	12.91	12.49	NA	NA
Recreational ACL	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.58	10.23	9.07	9.44
Rec. harvest limit-adjusted (m lb) ^b	9.28	11.21	11.98	9.29	6.68	6.21	7.16	8.59	11.58	8.49	7.63	7.01	7.16
Rec. landings	11.64	11.02	10.92	10.51	9.34	8.15	6.03	5.11	5.96	6.49	7.12	NA	NA
Com. fish size (in)	14	14	14	14	14	14	14	14	14	14	14	14	14
Com. Min. mesh size (in, diamond) ^c	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Recreational measures ^d	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	NA

^aThese reflect the regulations currently implemented for summer flounder in 2015, however, the Council and ASFMC will review recent fishery data in August 2014 and may revise as necessary. ^bAdjusted for Research Set-Aside and projected discards. ^cWhole Net. ^dState- or region-specific conservation equivalency (CE) measures. NA=Not applicable or not yet available.

Commercial Fishery

In Federal waters, commercial fishermen holding a moratorium permit may fish for summer flounder. Permit data for 2013 indicates that 824 vessels held commercial permits for summer flounder. The commercial quota is divided among the states based on the allocation percentages given in Table 2, and each state sets measures to achieve their state-specific commercial quotas.

Table 2: State-by-state percent share of commercial summer flounder allocation.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

National Marine Fisheries Service statistical areas are shown in Figure 4, with areas that accounted for more than 5 percent of the summer flounder catch in 2013 highlighted. VTR data suggest that statistical area 537 was responsible for the highest percentage of the catch, with statistical area 612 having the majority of trips that caught summer flounder (Table 3).

Table 3: Statistical areas that accounted for at least 5 percent of the summer flounder catch in 2013, with associated number of trips. Source: NMFS VTR data.

Statistical Area	Summer Flounder Catch (percent)	Summer Flounder Trips (N)
537	31.15	1,609
616	14.01	483
526	9.52	107
613	8.23	1,768
612	7.66	1,806

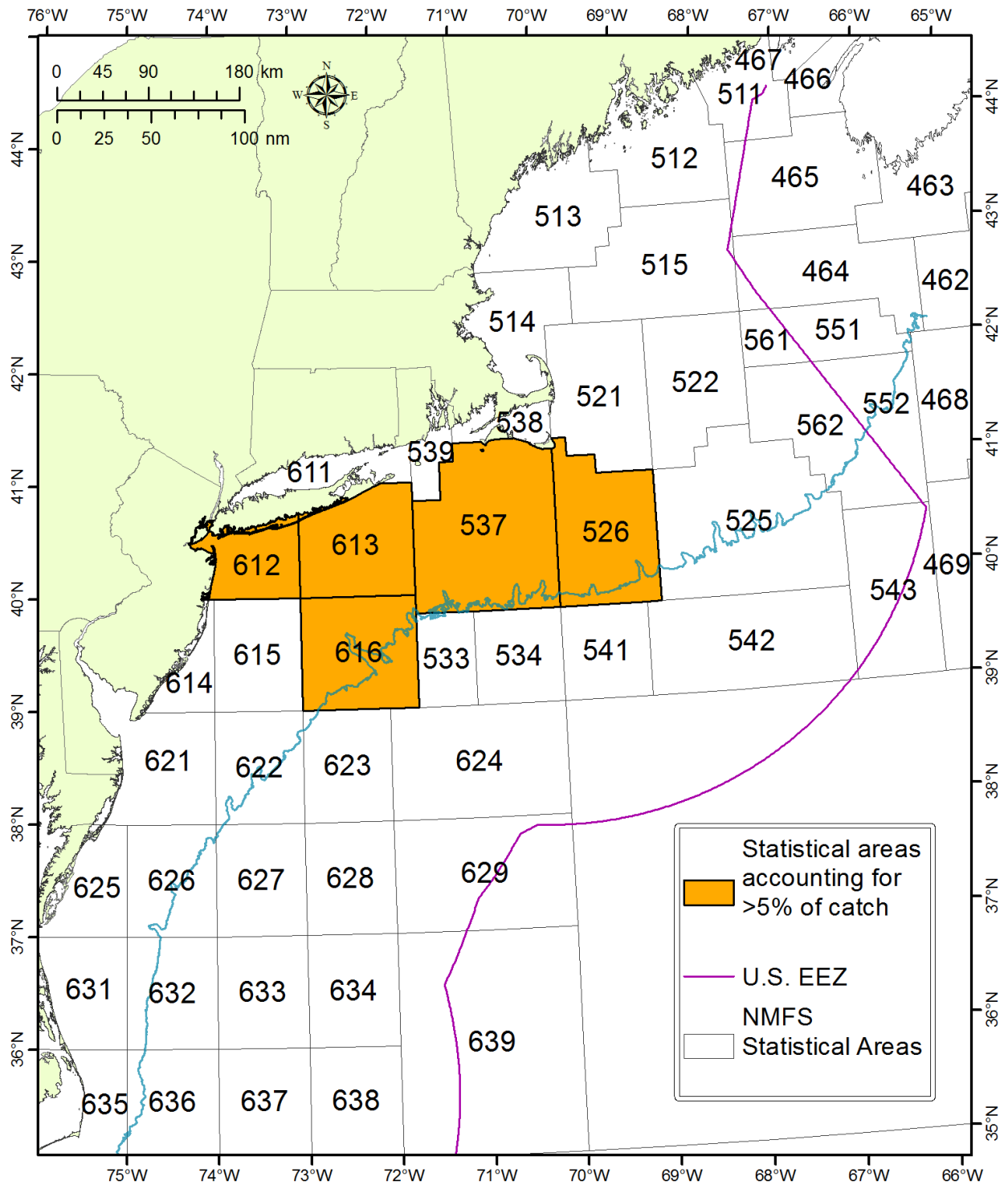


Figure 4: National Marine Fisheries Service Statistical Areas, showing statistical areas accounting for more than 5% of the commercial summer flounder catch in 2013.

Based on VTR data for 2013, the bulk of the summer flounder landings were taken by bottom otter trawls (97 percent), followed by bottom scallop trawls (1 percent), with other gear types (e.g. hand lines, scallop dredges, sink gill nets) each accounting for 1 percent or less of landings. Current regulations require a 14 inch total length minimum fish size in the commercial fishery and a 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lb in the winter and 100 lb in the summer.

Summer flounder ex-vessel revenues based on dealer data have ranged from \$14.3 to \$30.2 million for the 1994 through 2013 period. The mean price for summer flounder (unadjusted) has ranged from a low of \$1.34/lb in 2002 to a high of \$2.38/lb in 2008 (Figure 5). In 2013, 12.49 million pounds of summer flounder were landed generating \$29.2 million in revenues (\$2.34/lb).

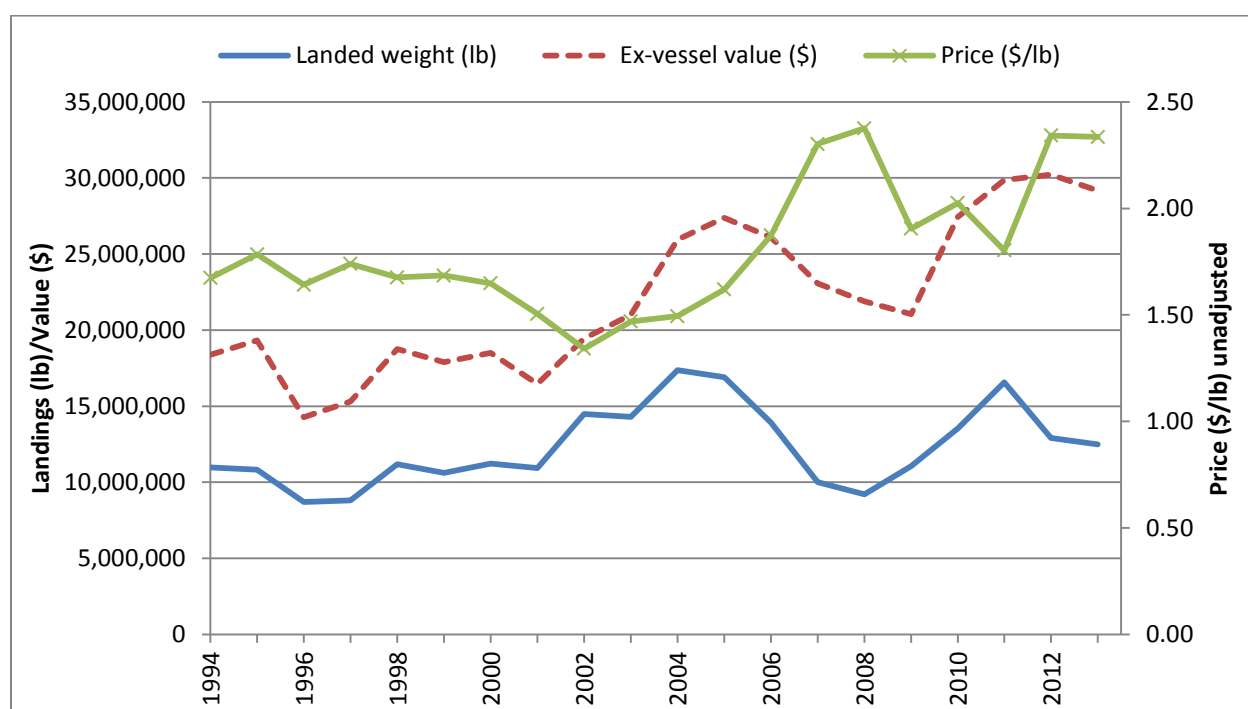


Figure 5: Landings, ex-vessel value, and price (unadjusted) for summer flounder, Maine through North Carolina, 1994-2013.

To examine recent landings patterns among ports, 2013 NMFS dealer data are used. The top commercial landings ports for summer flounder by pounds landed are shown in Table 4. A “top port” is defined as any port that landed at least 100,000 lb of summer flounder. 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 summer flounder are fully described in Amendment 13 to the FMP. Additional information can be found in the document titled “Community Profiles for the Northeast US Fisheries”:

<http://www.nefsc.noaa.gov/read/socialsci/pdf/communityProfiles/introduction.pdf/>.

Table 4: Top ports of landing (in lb) for summer flounder (FLK), 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.

Port	Landings of FLK (lb)	# FLK Vessels
NEWPORT NEWS, VA	2,197,269	48
HAMPTON, VA	1,921,458	46
POINT JUDITH, RI	1,917,483	132
CHINCOTEAGUE, VA	1,209,445	43
PT. PLEASANT, NJ	945,652	51
MONTAUK, NY	545,491	83
CAPE MAY, NJ	449,450	60
NEW BEDFORD, MA	424,614	70
BELFORD, NJ	340,146	19
BEAUFORT, NC	285,310	25
STONINGTON, CT	194,683	20
LONG BEACH/BARNEGAT LIGHT, NJ	187,421	27
WOODS HOLE, MA	174,334	27
OCEAN CITY, MD	172,981	15
HAMPTON BAY, NY	169,473	30
MATTITUCK, NY	123,959	4
NANTUCKET, MA	100,979	12

Among the states from Maine through North Carolina, New York had the highest number of Federally permitted dealers (57) who bought summer flounder in 2013 (Table 5). All dealers bought approximately \$29.2 million worth of summer flounder in 2013.

Table 5: Dealers reporting buying summer flounder, by state in 2013. Note: C = Confidential.

Number of Dealers	MA	RI	CT	NY	NJ	DE	MD	VA	NC
	39	38	16	57	34	C	4	19	29

Recreational Fishery

There is a significant recreational fishery for summer flounder in state waters, which occurs seasonally when the fish migrate inshore during the warm summer months. To manage this fishery, state-specific conservation equivalency was developed and has been used every year since 2001 (Table 1). Under conservation equivalency, state- or region- specific measures are developed through the ASMFC, and are submitted to NMFS. If NMFS considers the combination of the state- or region- specific measures to be "equivalent" to the coastwide measures, they may then waive the coastwide regulation in Federal waters. Those fishermen fishing in Federal waters are then subject to the measures of the state in which they land summer flounder. Typically, conservation equivalency has been implemented on a state-specific basis. For 2014, the ASFMC voted to implement regional-based conservation equivalency measures, given in Table 6.

Table 6: Summer flounder recreational fishing measures in 2014, by state, under regional conservation equivalency. 2014 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut, New York, and New Jersey, 4) Delaware, Maryland, PRFC, and Virginia, and 5) North Carolina.²

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 30
Rhode Island	18	8 fish	May 1-December 31
Connecticut	18	5 fish	May 17-September 21
CT Shore Program (45 designated shore sites)	16		
New York	18	5 fish	May 17-September 21
New Jersey	18	5 fish	May 23-September 27
NJ Pilot Shore Program (1 site)	16	2 fish	(Tentatively) May 23-September 27
Delaware	16	4 fish	All year
Maryland	16	4 fish	All year
Potomac River Fish. Commission (PRFC)	16	4 fish	All year
Virginia	16	4 fish	All year
North Carolina	15	6 fish	All year

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 for summer flounder peaked in 1983 and were at the lowest levels in 1989 (Table 7).

² Under regional conservation equivalency, each region must have the same minimum size limit, bag limit, and same number of open days in their season.

Table 7: Recreational summer flounder landings data from the NMFS recreational statistics databases, 1981-2013.

Year	Catch ('000 of fish)	Landings ('000 of fish)	Landings ('000 lb)
1981	13,579	9,567	10,081
1982	23,562	15,473	18,233
1983	32,062	20,996	27,969
1984	29,785	17,475	18,765
1985	13,526	11,066	12,490
1986	25,292	11,621	17,861
1987	21,023	7,865	12,167
1988	17,171	9,960	14,624
1989	2,677	1,717	3,158
1990	9,101	3,794	5,134
1991	16,075	6,068	7,960
1992	11,910	5,002	7,148
1993	22,904	6,494	8,831
1994	17,725	6,703	9,328
1995	16,308	3,326	5,421
1996	18,994	6,997	9,820
1997	20,027	7,167	11,866
1998	22,086	6,979	12,477
1999	21,378	4,107	8,366
2000	25,384	7,801	16,468
2001	28,187	5,294	11,637
2002	16,674	3,262	8,008
2003	20,532	4,559	11,638
2004	20,336	4,316	11,022
2005	25,806	4,027	10,915
2006	21,400	3,950	10,505
2007	20,732	3,108	9,337
2008	22,897	2,350	8,151
2009	24,085	1,806	6,030
2010	23,722	1,501	5,108
2011	21,559	1,840	5,956
2012	16,528	2,272	6,490
2013	15,789	2,457	7,124

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 summer flounder are landed recreationally. These data indicate that on average, about 90 percent of the landings (in numbers of fish) have occurred in state waters over the past ten years, and about 77 percent of landings came from state waters in 2013 (Table 8).

Table 8: Percentage of summer flounder recreational landings (MRIP Type A+B1 in number of fish) by area (state vs. Federal waters), Maine through North Carolina, 2004-2013. Area information is self-reported based on where the majority of fishing activity occurred per angler trip.

Year	State ≤ 3 mi	EEZ > 3 mi
2004	87.7%	12.3%
2005	81.2%	18.8%
2006	90.4%	10.0%
2007	88.9%	11.1%
2008	96.8%	3.5%
2009	90.8%	9.2%
2010	92.3%	7.7%
2011	95.4%	4.7%
2012	87.8%	12.3%
2013	77.1%	22.9%
Avg. 2004 - 2013	88.9%	11.3%
Avg. 2011 - 2013	86.8%	13.3%

Table 9: State contribution (as a percentage) to total recreational landings of summer flounder, (MRIP Type A+B1 in number of fish), from Maine through North Carolina, 2012 and 2013.

State	2012	2013
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	3.3%	1.3%
Rhode Island	4.5%	5.2%
Connecticut	2.8%	11.0%
New York	22.4%	20.4%
New Jersey	49.7%	48.7%
Delaware	2.0%	2.0%
Maryland	1.0%	2.0%
Virginia	11.4%	7.6%
North Carolina	2.8%	1.8%
Total	100%	100%

In 2013, there were 791 recreational vessels (i.e., party and charter vessels) that held summer flounder Federal recreational permits. Many of these vessels also hold recreational permits for scup and black sea bass. Landings by mode indicate that private/rental fishermen are responsible for the majority of summer flounder landings (Table 10).

Table 10: The number of summer flounder landed from Maine through North Carolina by mode, 1981-2013.

Year	Shore	Party/Charter	Private/Rental
1981	3,145,685	1,362,253	5,058,634
1982	1,120,527	5,936,005	8,416,175
1983	3,963,678	3,574,224	13,458,399
1984	1,355,597	2,495,734	13,623,844
1985	786,186	1,152,247	9,127,757
1986	1,237,032	1,608,908	8,774,920
1987	406,094	1,150,095	6,308,572
1988	945,862	1,134,356	7,879,445
1989	180,268	141,318	1,395,174
1990	261,899	413,241	3,118,444
1991	565,402	597,609	4,904,635
1992	275,472	375,244	4,351,389
1993	342,226	1,013,463	5,138,354
1994	447,183	836,361	5,419,147
1995	241,904	267,348	2,816,468
1996	206,929	659,878	6,130,181
1997	255,063	930,635	5,981,122
1998	316,312	360,777	6,302,003
1999	213,444	300,807	3,592,740
2000	569,613	648,754	6,582,710
2001	226,994	329,701	4,736,914
2002	154,960	261,552	2,845,644
2003	203,719	389,140	3,965,814
2004	200,367	463,777	3,652,355
2005	104,294	498,611	3,424,556
2006	154,416	315,934	3,479,936
2007	98,419	499,161	2,509,999
2008	79,338	171,950	2,098,582
2009	62,693	176,999	1,566,491
2010	59,810	160,108	1,281,546
2011	34,850	137,786	1,667,241
2012	106,342	169,476	1,996,407
2013	132,684	208,207	2,116,398
% of Total, 1981-2013	9%	14%	78%
% of Total, 2009-2013	4%	9%	87%

The NMFS angler expenditure survey summarizes a variety of costs associated with recreational fishing in the Northeast (Table 11). 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 12).

Table 11: 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 12: 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. Managers 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. FishSmart¹ 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/>

Summer flounder 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 5,665 mt = 12.489 million lbs, about 6% over the commercial quota including the RSA (5,350 mt = 11.795 million lbs). Estimated 2013 landings in the recreational fishery were 3,182 mt = 7.015 million lbs, about 92% of the recreational harvest limit (3,459 mt = 7.626 million lbs). Total commercial and recreational landings in 2013 were 8,847 mt = 19.504 million lbs and total commercial and recreational discards were 1,456 mt = 3.210 million lbs, for a total catch in 2013 of 10,303 mt = 22.714 million lbs (Table 1, Figure 1). NEFSC and VMRC commercial port sampling found new maximum observed ages for summer flounder in 2013: a 77 cm age 15, a 74 cm age 16, and a 74 cm age 17 fish.

State and Federal survey biomass index trends were variable, but most decreased from 2012 to 2013 (Figures 2-11). Indices of recruitment (age 0 fish) were generally lower over the last 3 years than in the previous decade (Figures 12-18).

Table 1. Commercial and recreational fishery landings, estimated commercial and recreational dead discard, and total catch (metric tons) as used in the assessment of summer flounder, Maine to North Carolina. Includes MRIP 2004-2013 estimates of recreational catch, and 1982-2003 recreational catch adjusted by the 2004-2011 MRIP to MRFSS ratio for each catch type.

Year	Commercial			Recreational			Total		
	Landings	Discard	Catch	Landings	Discard	Catch	Landings	Discard	Catch
1982	10,400	n/a	10,400	8,163	284	8,447	18,563	284	18,847
1983	13,403	n/a	13,403	12,527	361	12,888	25,930	361	26,291
1984	17,130	n/a	17,130	8,405	399	8,804	25,535	399	25,934
1985	14,675	n/a	14,675	5,594	88	5,682	20,269	88	20,357
1986	12,186	n/a	12,186	8,000	555	8,555	20,186	555	20,741
1987	12,271	n/a	12,271	5,450	502	5,952	17,721	502	18,223
1988	14,686	n/a	14,686	6,550	328	6,878	21,236	328	21,564
1989	8,125	456	8,581	1,417	43	1,460	9,542	499	10,041
1990	4,199	898	5,097	2,300	225	2,525	6,499	1,122	7,621
1991	6,224	219	6,443	3,566	412	3,978	9,790	631	10,421
1992	7,529	2,151	9,680	3,201	332	3,533	10,730	2,483	13,213
1993	5,715	701	6,416	3,956	874	4,830	9,671	1,575	11,246
1994	6,588	1,535	8,123	4,178	660	4,838	10,766	2,195	12,961
1995	6,977	821	7,798	2,428	723	3,151	9,405	1,545	10,950
1996	5,861	1,436	7,297	4,398	656	5,054	10,259	2,092	12,351
1997	3,994	806	4,800	5,314	535	5,849	9,308	1,341	10,649
1998	5,076	634	5,710	5,588	705	6,293	10,664	1,339	12,003
1999	4,820	1,660	6,480	3,747	683	4,430	8,567	2,343	10,910
2000	5,085	1,617	6,702	7,376	915	8,291	12,461	2,532	14,993
2001	4,970	405	5,375	5,213	1,225	6,438	10,183	1,630	11,813
2002	6,573	922	7,495	3,586	746	4,332	10,159	1,668	11,827
2003	6,450	1,144	7,594	5,213	847	6,060	11,663	1,991	13,654
2004	8,228	1,606	9,834	4,974	1,013	5,987	13,202	2,619	15,821
2005	7,826	1,484	9,310	4,929	950	5,879	12,755	2,434	15,189
2006	6,262	1,482	7,744	4,804	768	5,572	11,066	2,250	13,316
2007	4,489	2,110	6,599	4,199	1,002	5,201	8,688	3,112	11,800
2008	4,143	1,162	5,305	3,689	1,154	4,843	7,832	2,316	10,148
2009	4,848	1,446	6,294	2,716	1,140	3,856	7,564	2,586	10,150
2010	5,930	1,466	7,396	2,317	1,066	3,383	8,247	2,532	10,779
2011	7,511	1,096	8,607	2,645	1,093	3,738	10,156	2,189	12,345
2012	5,911	718	6,629	2,853	815	3,668	8,764	1,533	10,297
2013	5,665	712	6,377	3,182	744	3,958	8,847	1,456	10,303

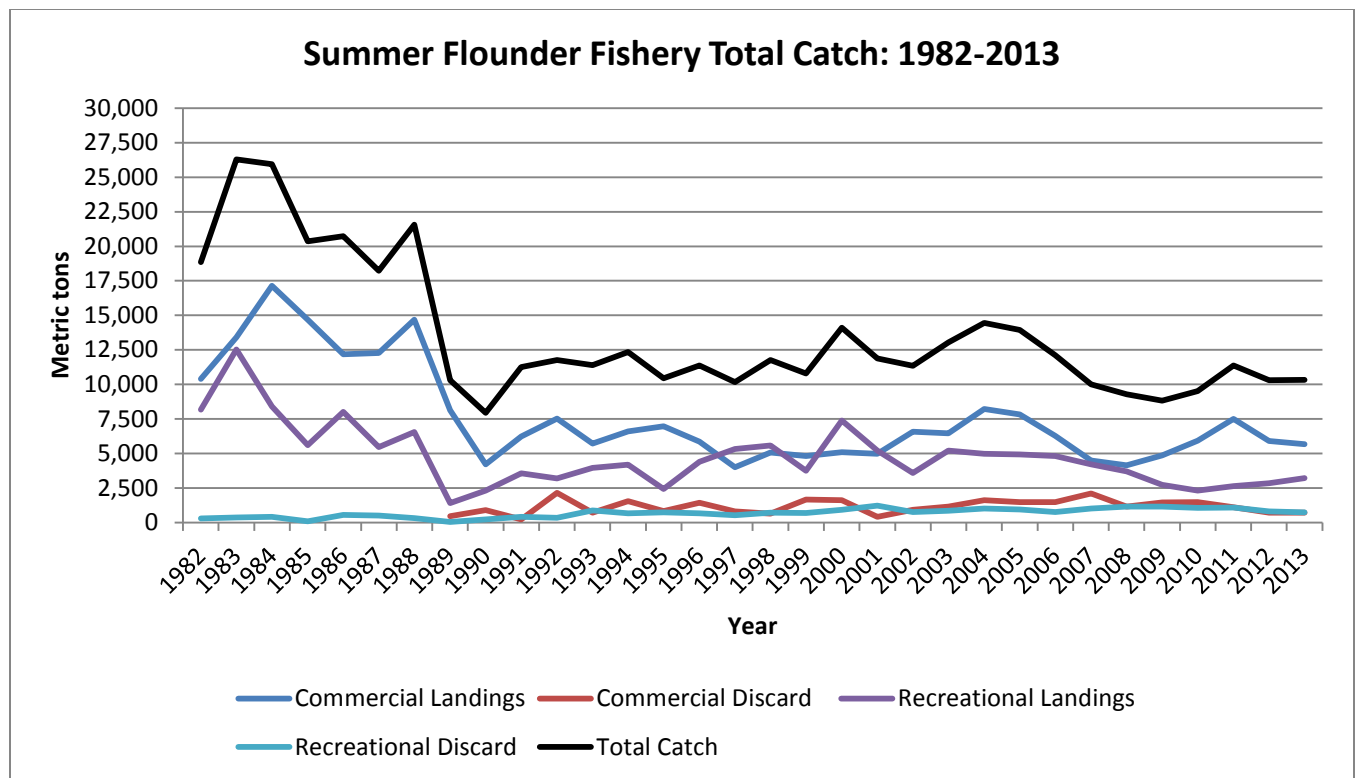


Figure 1. Summer flounder fishery total catch.

NEFSC Trawl Surveys

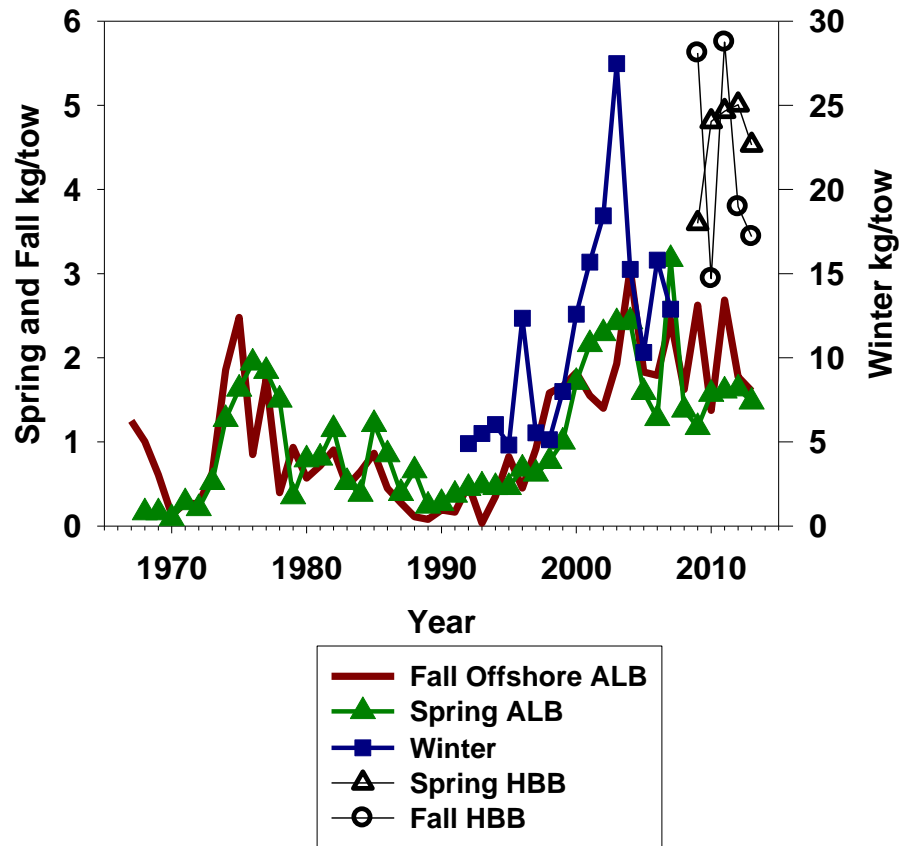


Figure 2. NEFSC trawl survey biomass indices for summer flounder. ‘ALB’ indices are calibrated FSV Albatross IV indices; ‘HBB’ indices are uncalibrated FSV Bigelow indices.

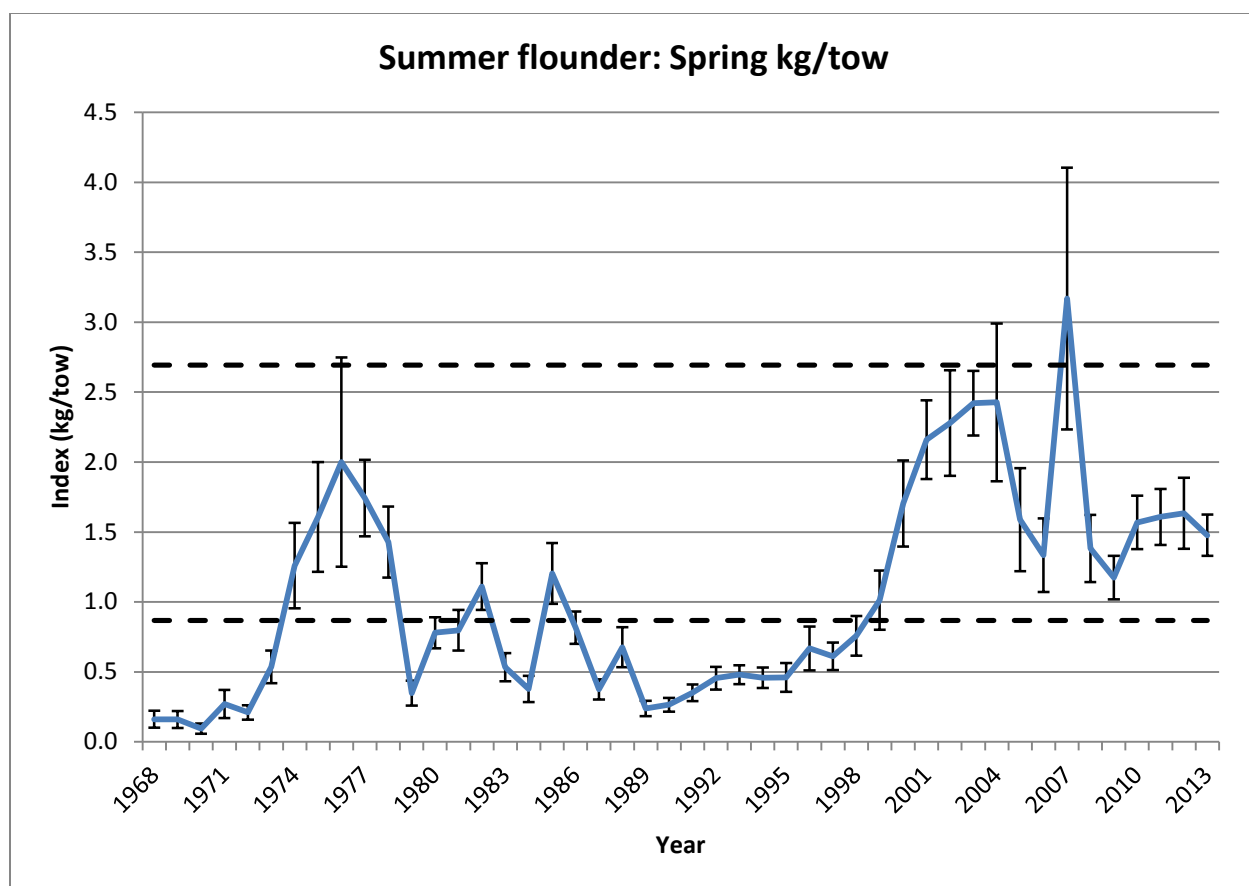


Figure 3. NEFSC spring trawl survey indices of summer flounder biomass. Whiskers around each annual index represent \pm one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

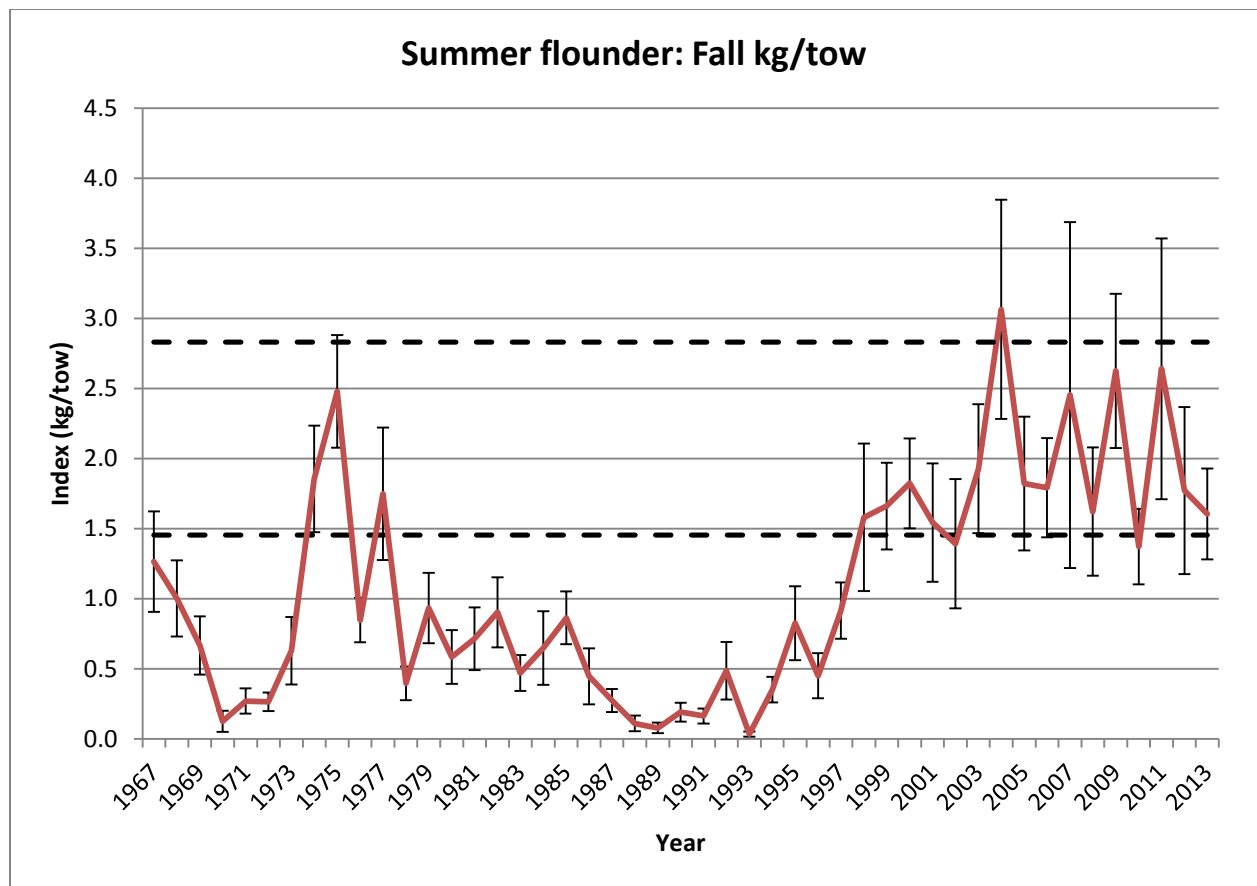


Figure 4. NEFSC fall trawl survey indices of summer flounder biomass. Whiskers around each annual index represent \pm one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing overfishing.

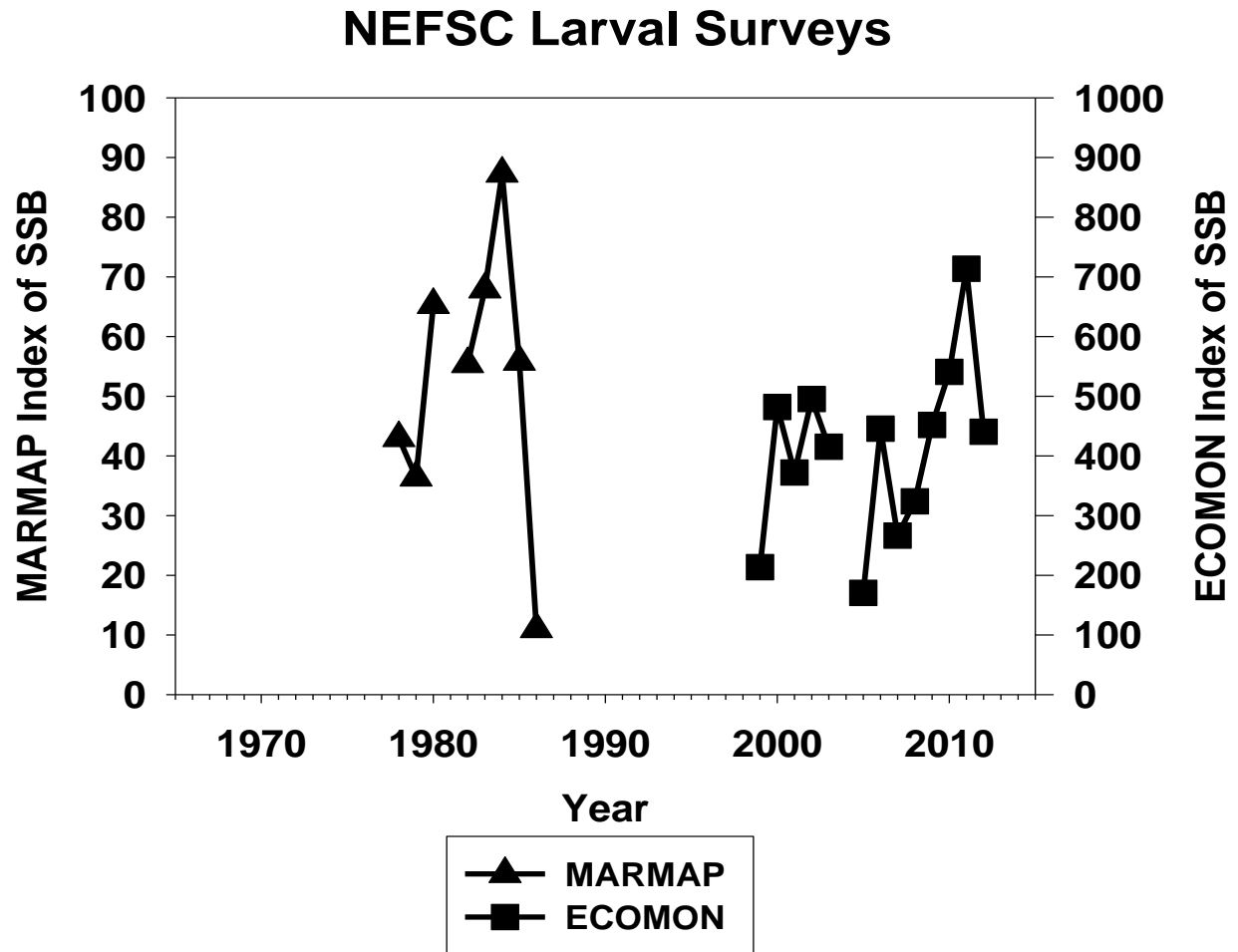


Figure 5. NEFSC larval survey indices of summer flounder spawning stock biomass (SSB). Index not available for 2013.

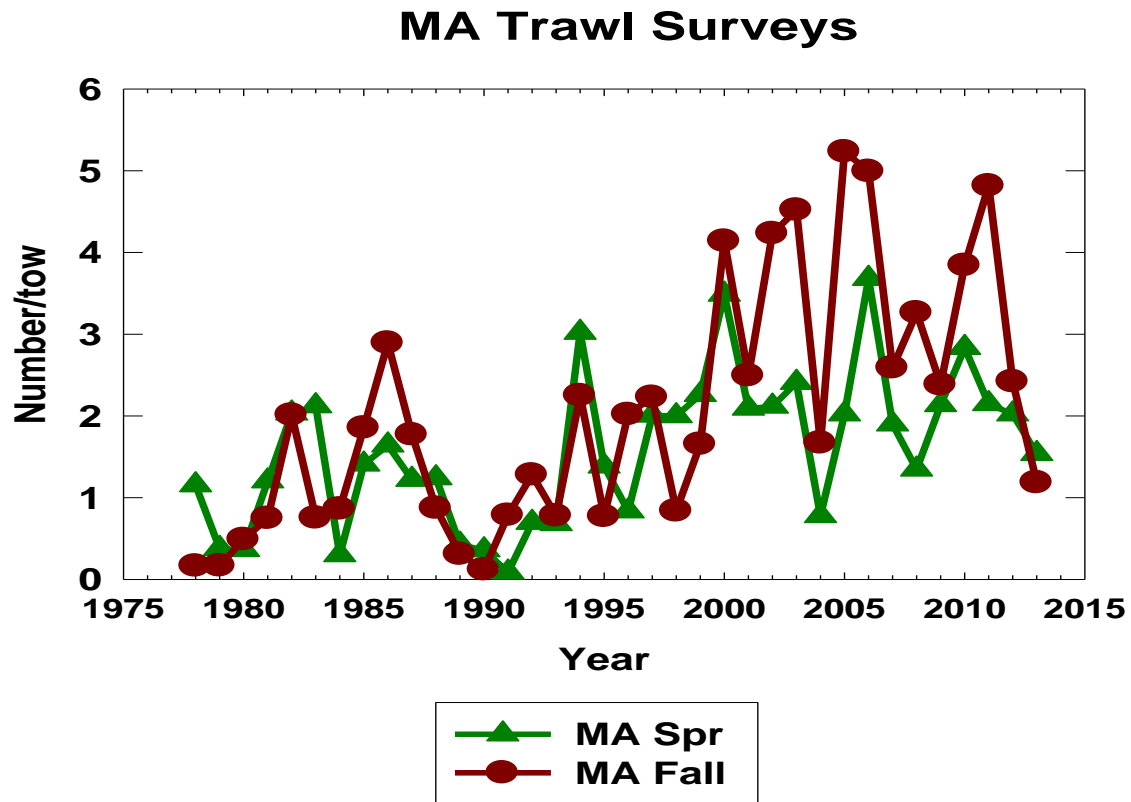


Figure 6. MADMF trawl survey indices for summer flounder.

RI Trawl Surveys

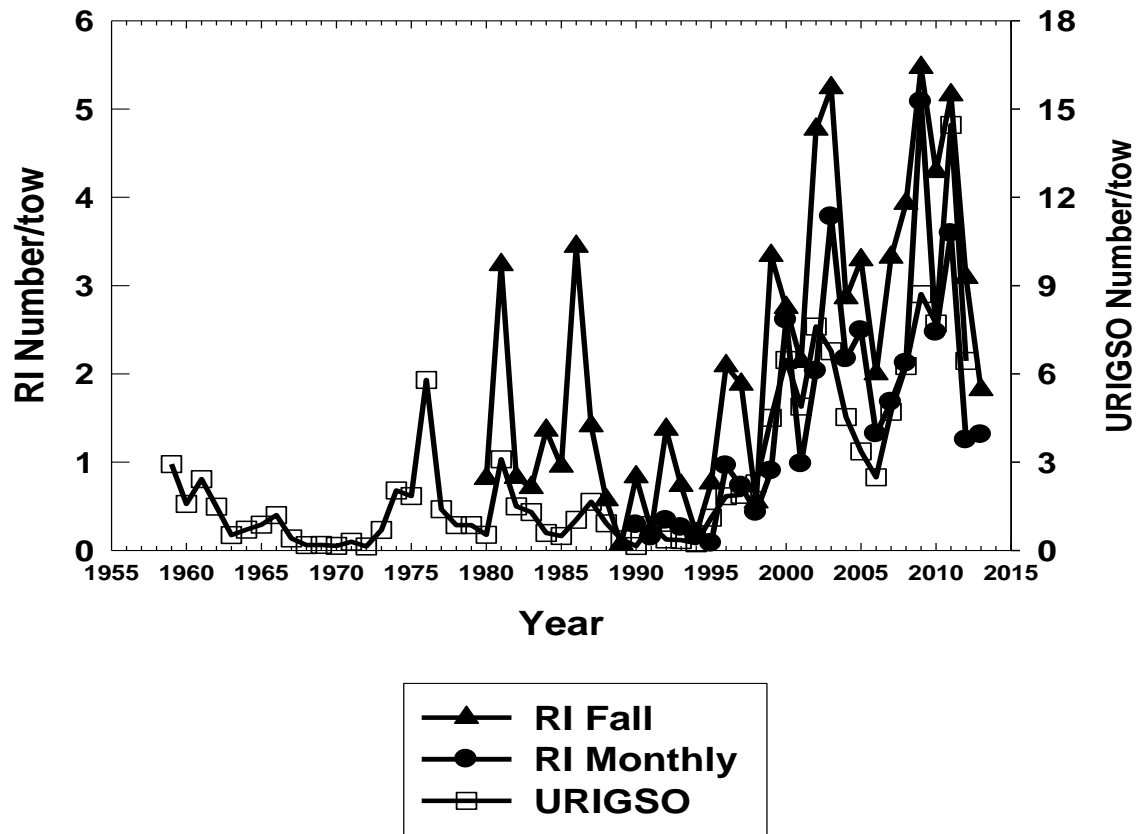


Figure 7. RIDFW and URIGSO trawl survey indices for summer flounder. URIGSO index not available for 2013.

CT and NY Trawl Surveys

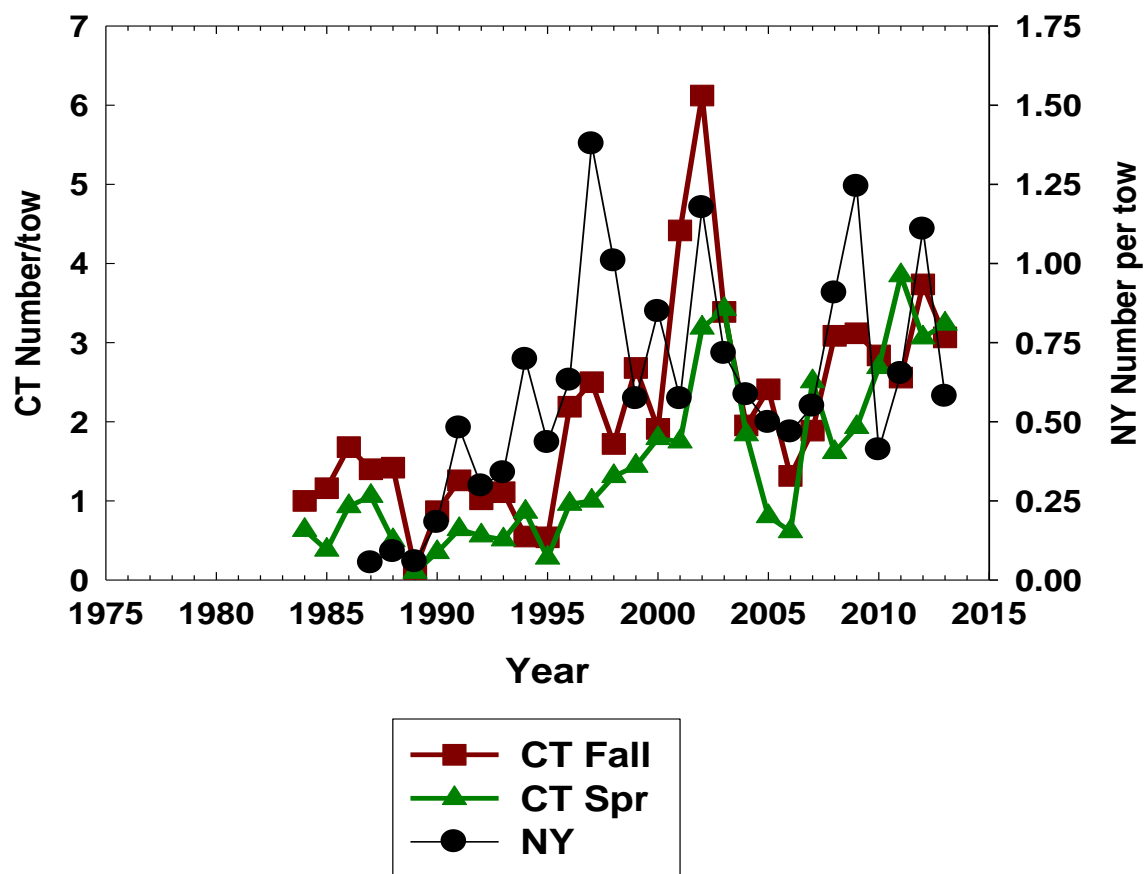


Figure 8. CTDEP and NYDEC trawl survey indices for summer flounder.

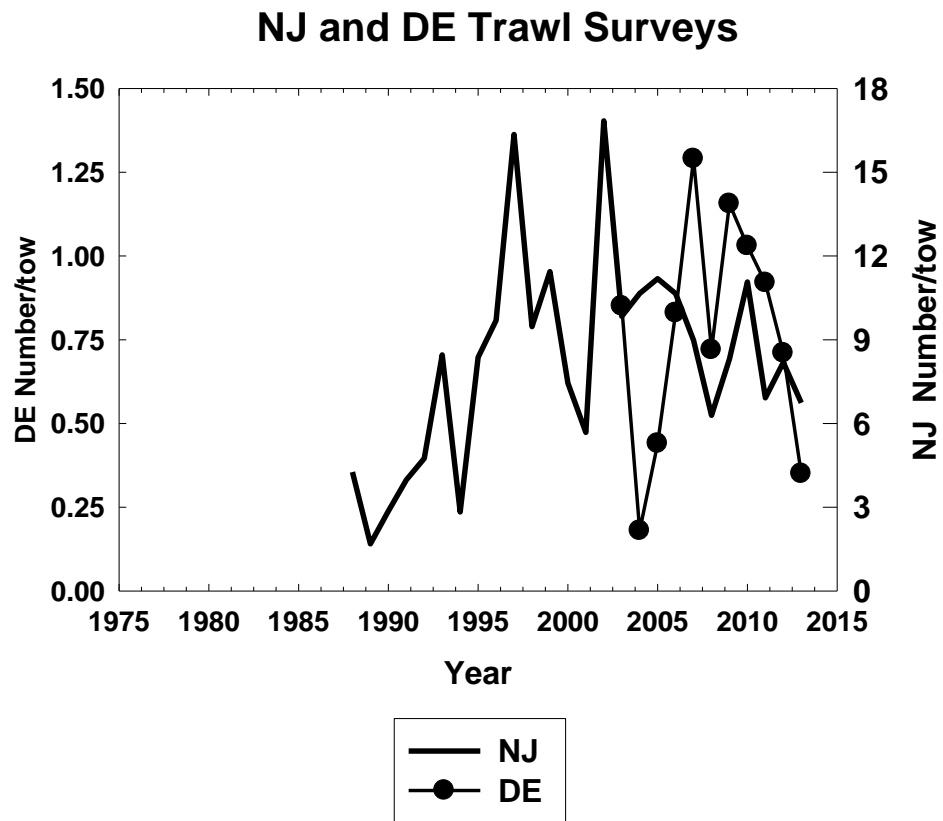


Figure 9. NJDMF and DEDFW trawl survey indices for summer flounder.

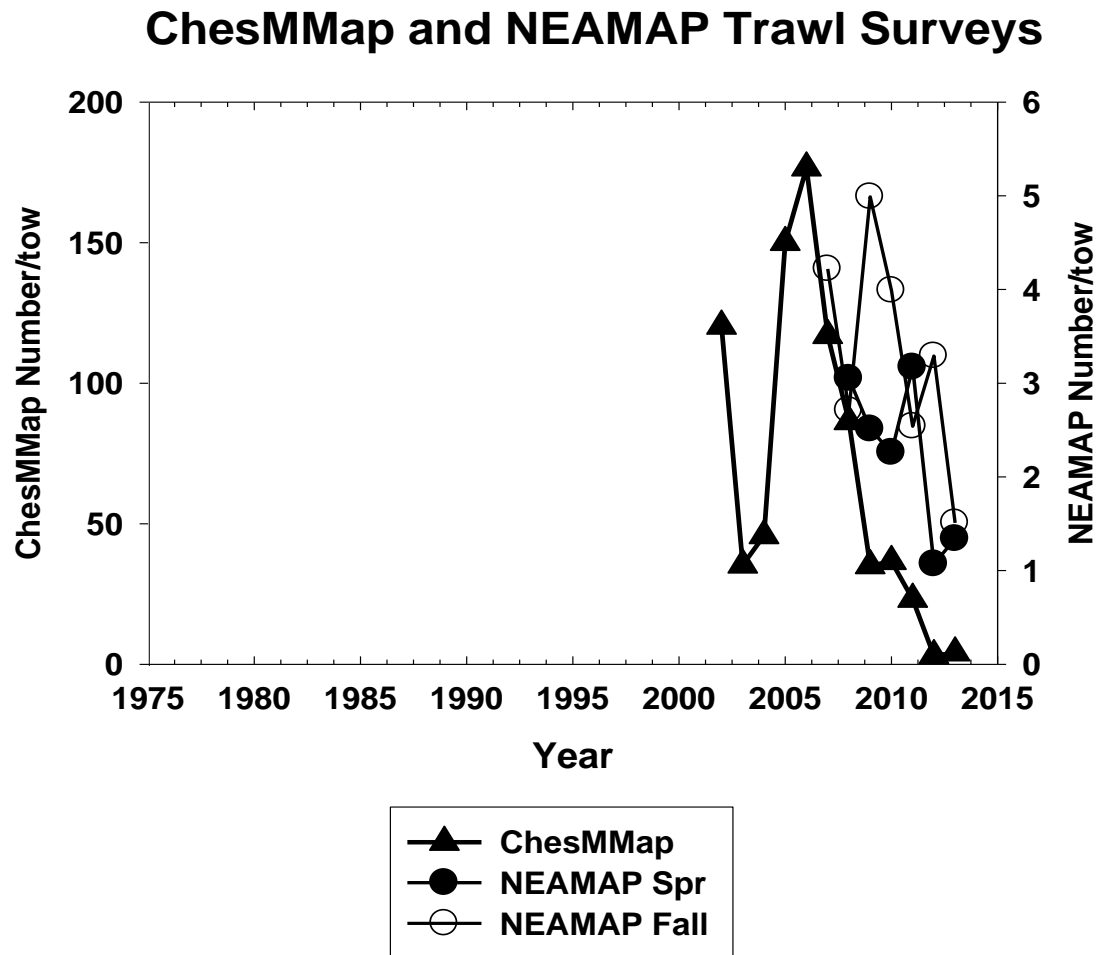


Figure 10. VIMS (ChesMMap and NEAMAP) trawl survey indices for summer flounder.

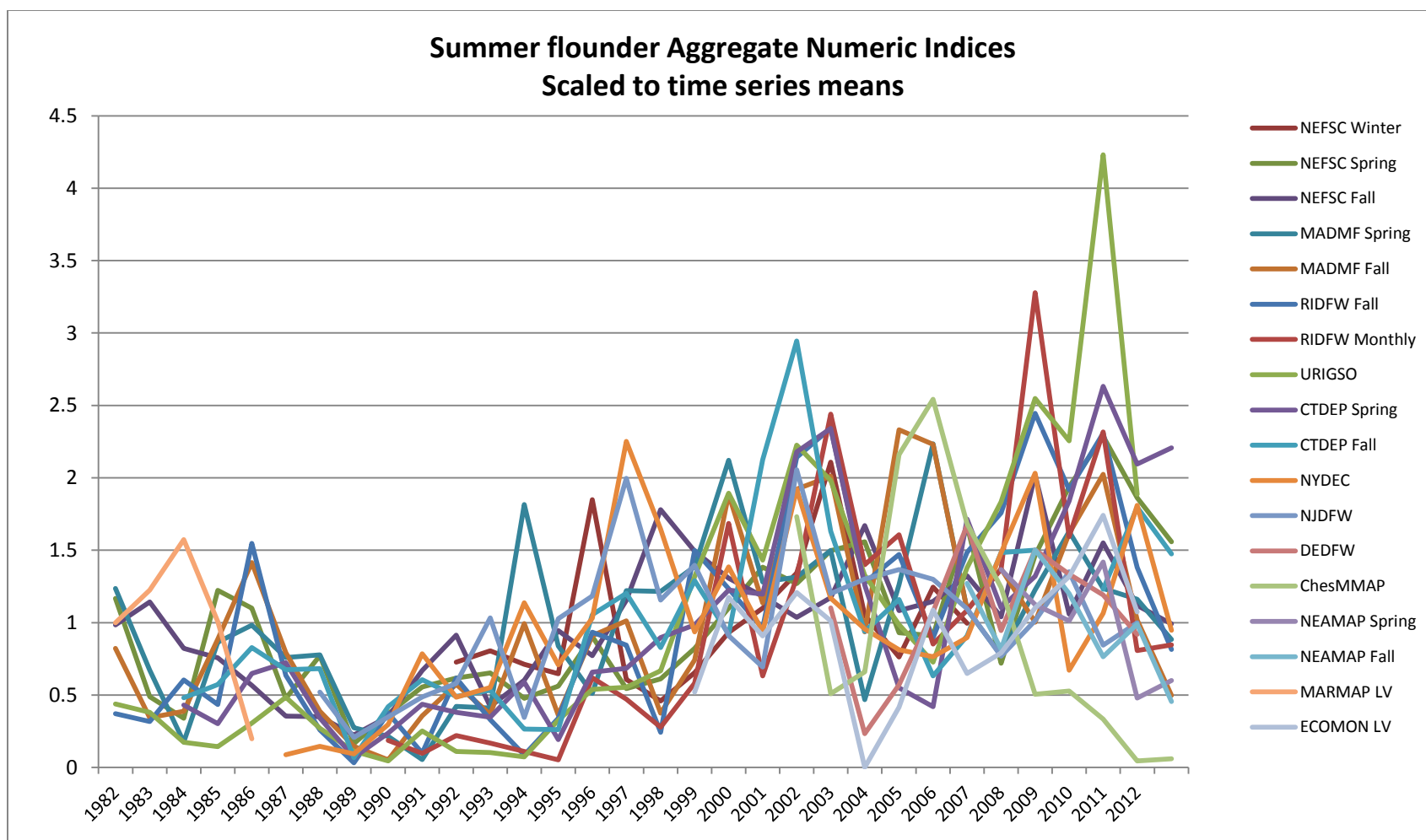


Figure 11. Summer flounder aggregate indices of numeric abundance through 2013.

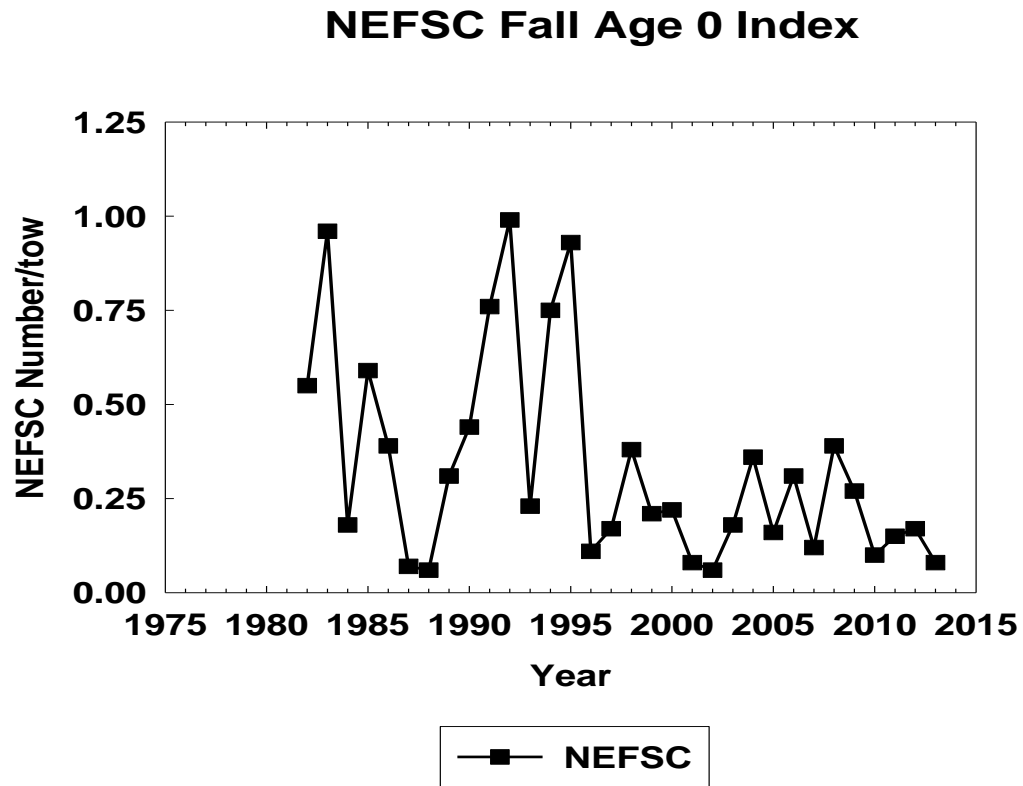


Figure 12. NEFSC age 0 abundance indices for summer flounder.

MA and RI Age 0 Indices

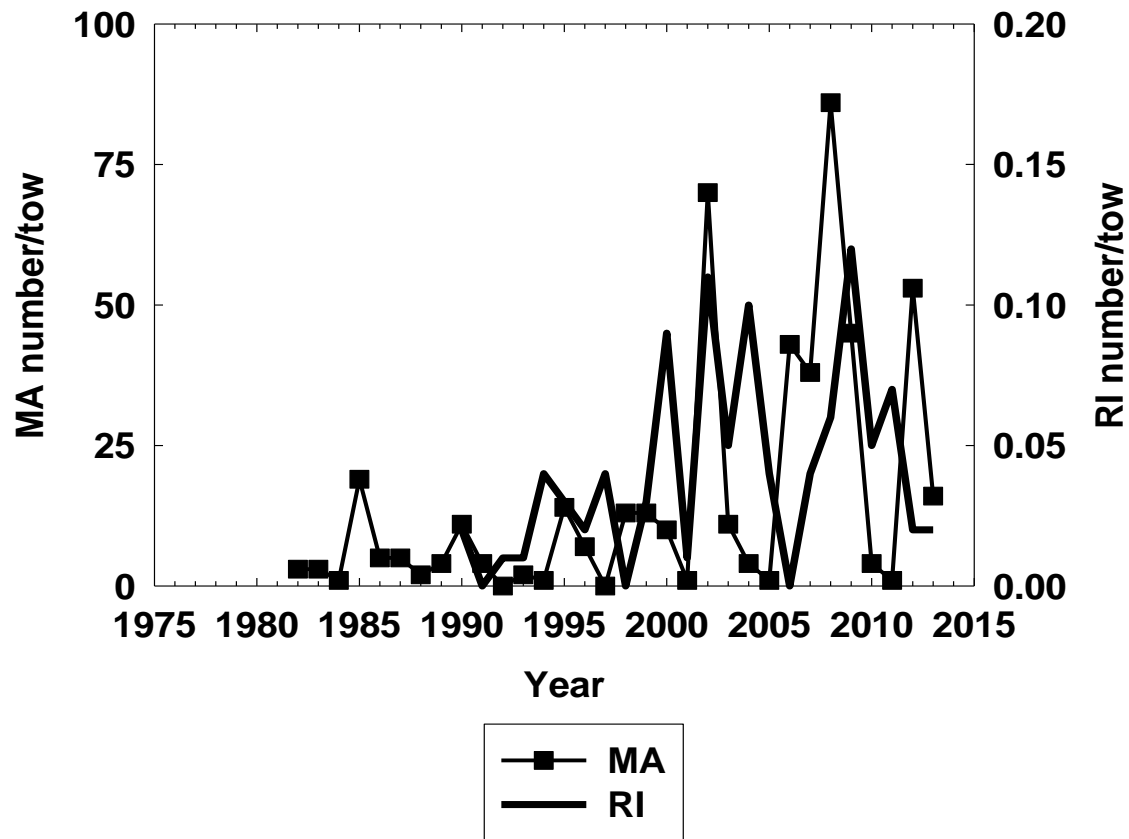


Figure 13. MADMF and RIDFW age 0 abundance indices for summer flounder.

CT, NY and NJ Age 0 Indices

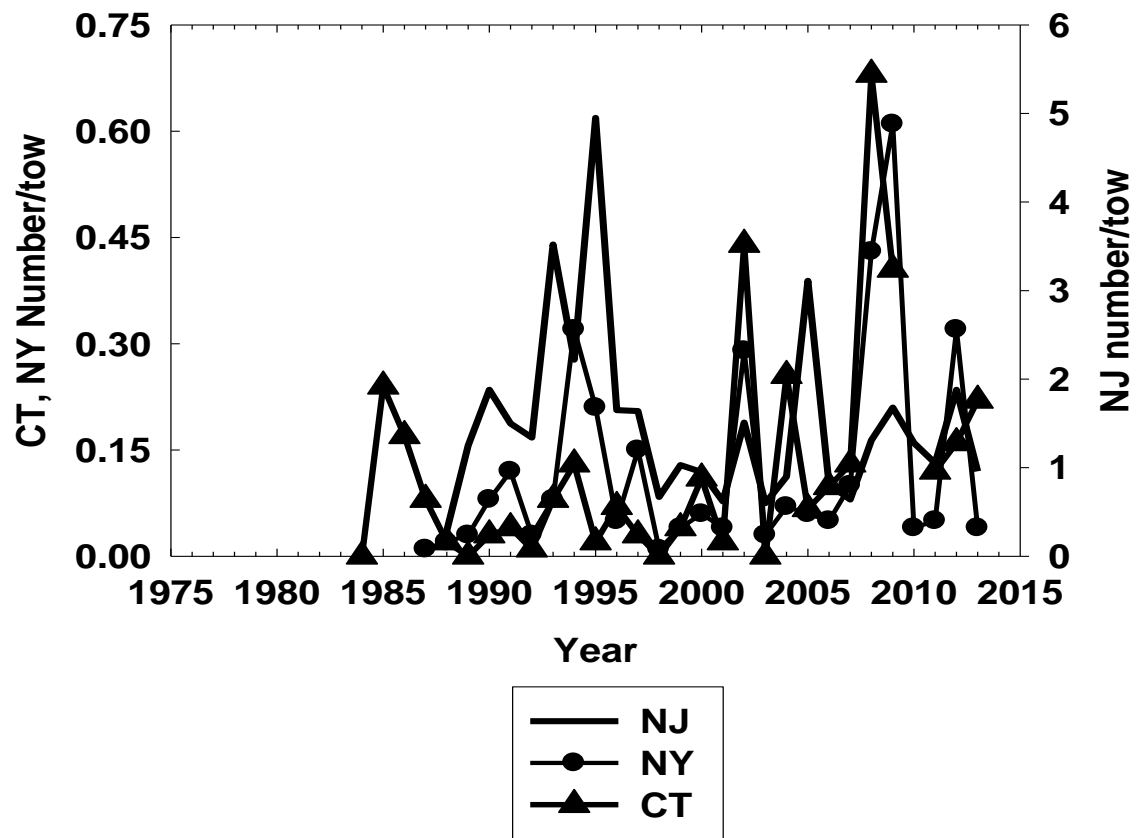


Figure 14. CTDEP, NYDEC, and NJDFW age 0 abundance indices for summer flounder.

DE Age 0 Indices

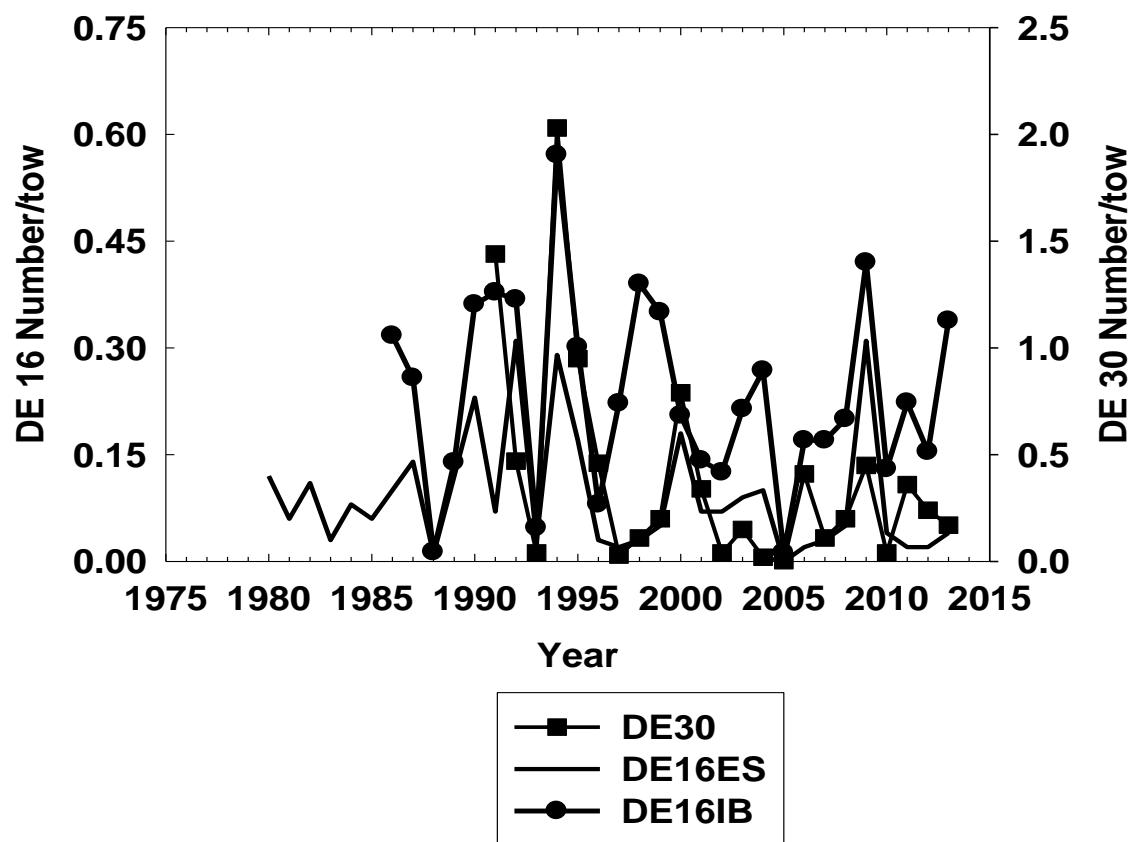


Figure 15. DEDFW age 0 abundance indices for summer flounder.

MD, VIMS and NC Age 0 Indices

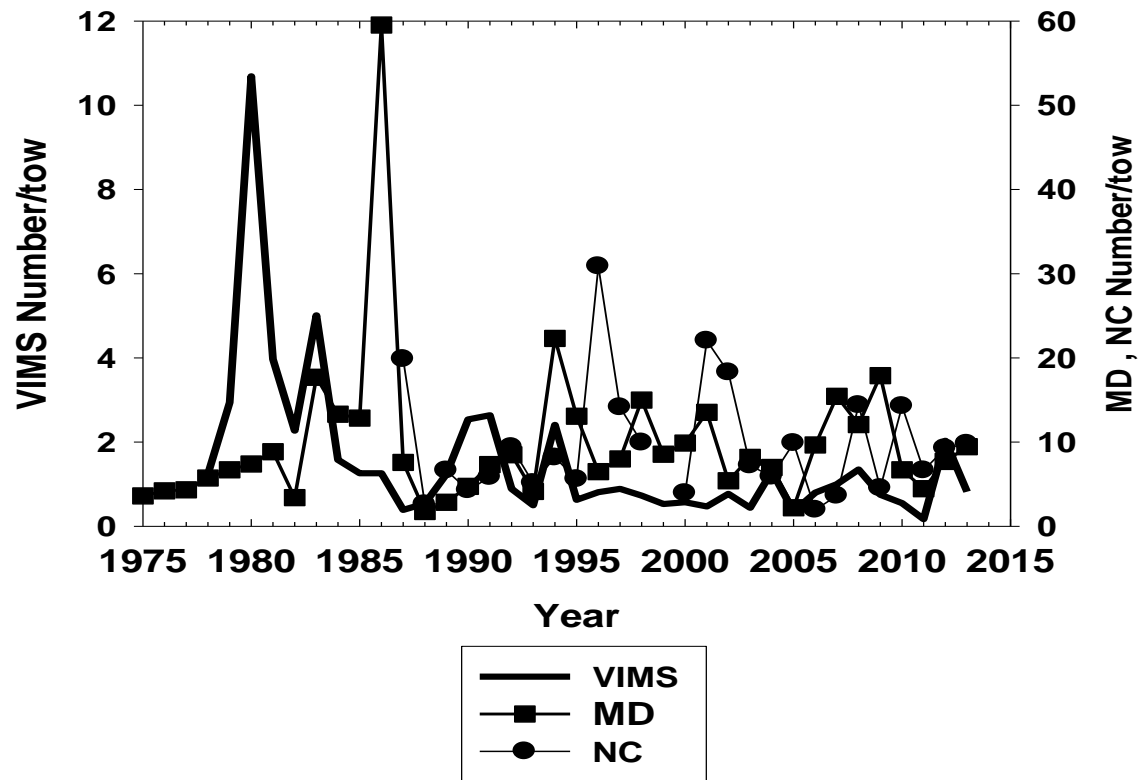


Figure 16. MDDNR, VIMS, and NCDMF age 0 abundance indices for summer flounder.

ChesMMAp and NEAMAP Age 0 Indices

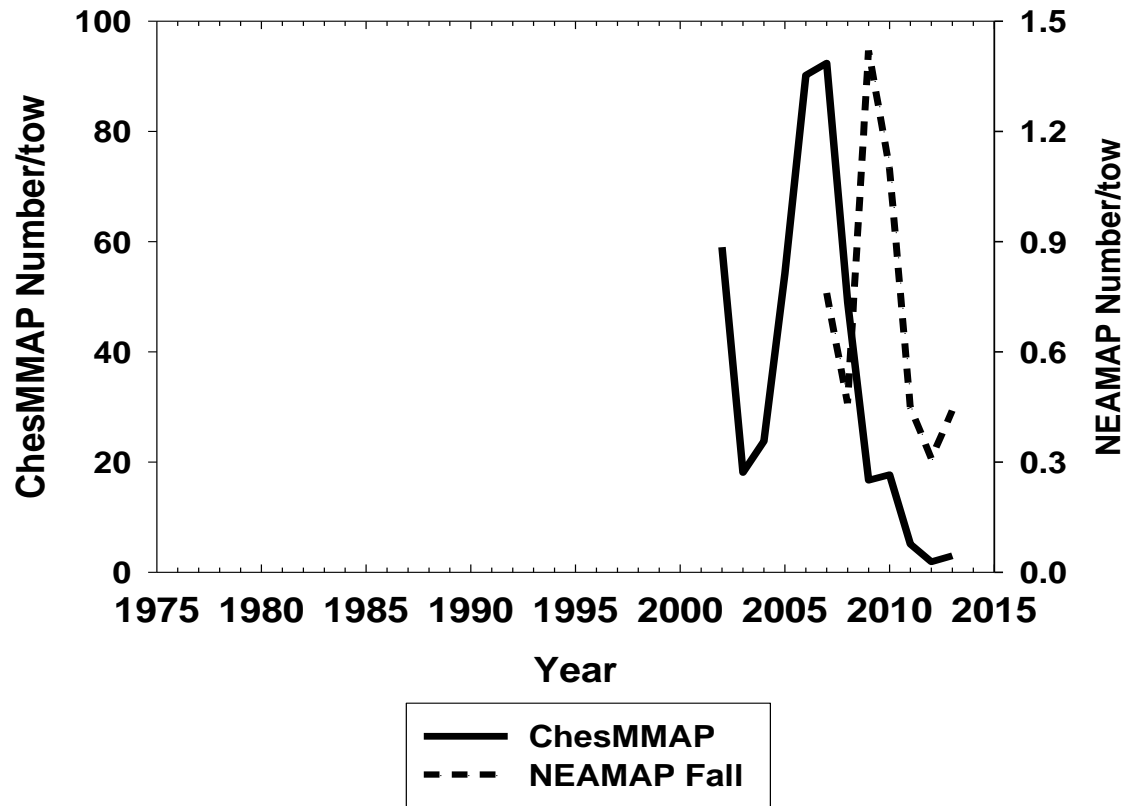


Figure 17. ChesMMAp and NEAMAP age 0 abundance indices for summer flounder.

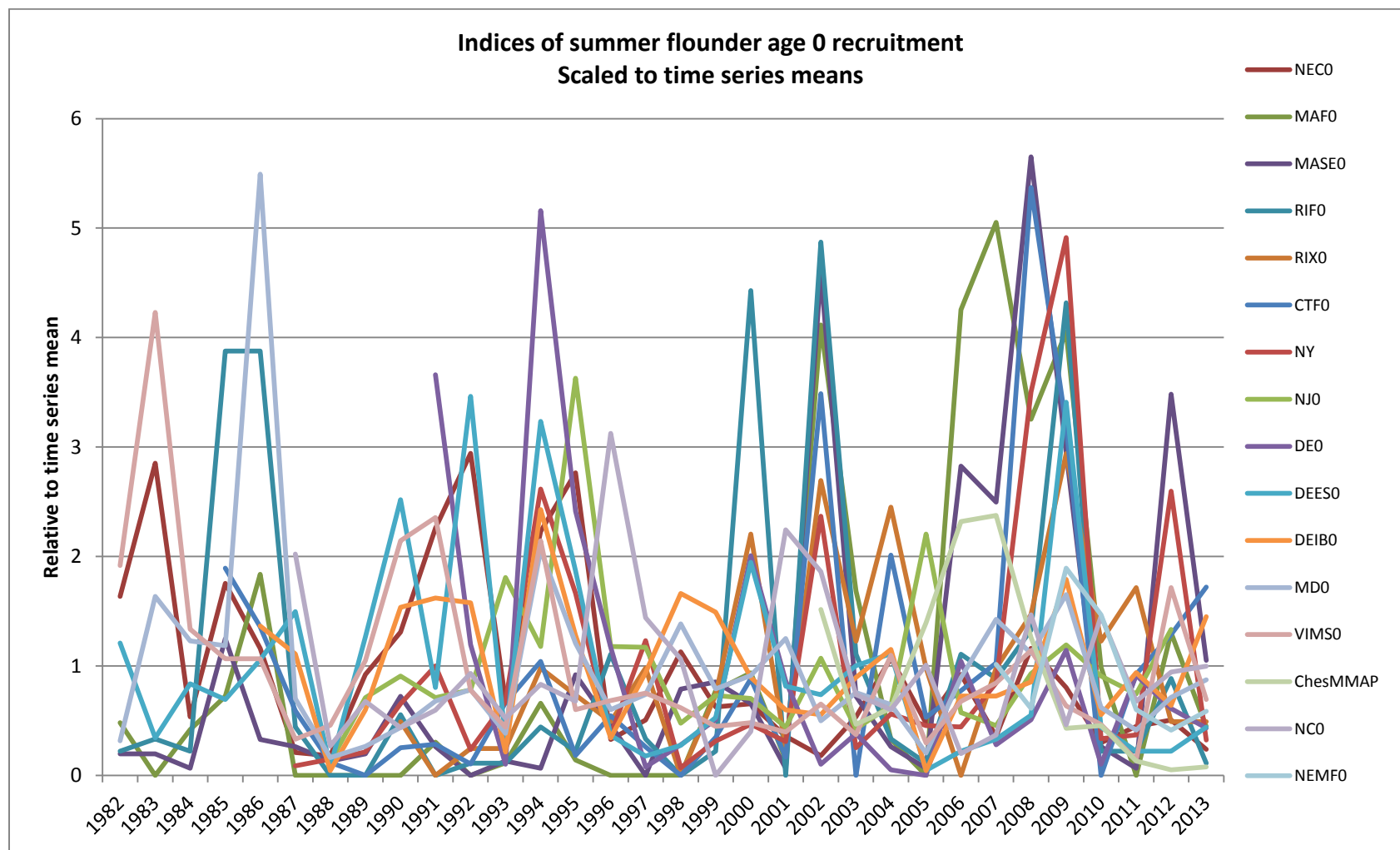


Figure 18. Summer flounder age 0 recruitment indices through 2013.



Mid-Atlantic Fishery Management Council
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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 Summer Flounder Management Measures for 2015

Executive Summary

In 2013, two-year specifications were implemented for summer flounder, establishing management measures for the 2014 and 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 (22.77 mil lb; 10,329 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 results of the benchmark stock assessment conducted in July 2013, the summer flounder stock was not overfished and overfishing was not occurring in 2012. The model-estimated spawning stock biomass (SSB) was 112.96 million lb (51,238 mt) in 2012 (82% of the biomass at maximum sustainable yield, SSB_{MSY}).

Staff recommends maintaining the specified ABC (22.77 mil lb) as the basis for management measures in 2015. This ABC resulted in a commercial Annual Catch Limit (ACL) of 13.34 million lb (6,049 mt), and a recreational ACL of 9.44 million lb (4,280 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 10.74 mil lb, and the recreational harvest limit is 7.16 mil lb (Table 1).

Staff does not recommend any changes to the current minimum fish size (14 inch total length), gear requirements, or exemption programs (small mesh and North Carolina flynet). States that allocate 15% of their commercial quota to bycatch fisheries should continue to do so, and all other states should consider measures which reduce bycatch.

¹The 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 summer flounder in 2014 and 2015.

Management Measure	2014		2015		Basis
	mil lb.	mt	mil lb.	mt	
ABC	21.94	9,950	22.77	10,329	Projections
ABC Landings Portion	18.06	8,191	18.45	8,368	Projections
ABC Discards Portion	3.88	1,759	4.32	1,961	Projections
Commercial ACL (=ACT)	12.87	5,837	13.34	6,049	60% of ABC landings portion (per FMP) + 52% of ABC discards portion
Comm. discards (projected)	2.03	923	2.27	1,028	52% of ABC discards portion, based on 2010-2012 average % discards by sector
RSA deduction (3%)	0.33	147	0.33	151	3% of pre-RSA Comm. Quota
Commercial quota (adjusted)	10.51	4,767	10.74	4,870	Comm. ACT less discards and RSA
Recreational ACL (=ACT)	9.07	4,113	9.44	4,280	40% of ABC landings portion (per FMP) + 48% of ABC discards portion
Rec. discards (projected)	1.84	836	2.06	933	48% of ABC discards portion, based on 2010-2012 average % discards by sector
RSA deduction (3%)	0.22	98	0.22	100	3% of pre-RSA RHL
Recreational Harvest Limit (adjusted)	7.01	3,178	7.16	3,247	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 ABC, preventing overfishing, and 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 summer flounder for up to three years at a time. For fishing year 2015, the SSC previously recommended an ABC for summer flounder as part of multi-year specifications for the 2014 and 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 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 summer flounder 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 summer flounder.

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

Catch and Landings Update

Reported 2013 landings in the commercial fishery were approximately 12.49 mil lb (5,665 mt), and recreational landings in 2013 were 7.01 mil lb (3,182 mt). The 2014 commercial landings as of the week ending June 21, 2014, indicate that 62% of the coastwide commercial quota has been landed (Table 2).

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

State	Cumulative Landings (lb)	Quota (lb) ^a	Percent of Quota (%)	Research Set-Aside Landings (lb)
ME	0	4,998	0	0
NH	3	48	6	0
MA	198,425	688,593	29	384
RI	1,116,165	1,648,193	68	79,799
CT	125,749	237,206	53	0
NY	358,924	724,301	50	28,147
NJ	830,537	1,765,169	47	0
DE	0	0	0	0
MD	105,203	214,298	49	0
VA	1,448,660	2,388,012	61	0
NC	2,258,807	2,729,195	83	0
Other	0	0	0	0
Totals	6,442,473	10,400,013	62	108,330

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

Biological Reference Points and Stock Status

The most recent peer-reviewed assessment for summer flounder was a benchmark stock assessment conducted in the summer of 2013 at the Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC 57).² This assessment included updated biological reference points for summer flounder. The fishing mortality threshold is $F_{MSY} = F_{35\%}$ (as the F_{MSY} proxy) = 0.309. The biomass reference point is $SSB_{MSY} = SSB_{35\%}$ (as the SSB_{MSY} proxy) = 137.56 million lb (62,394 mt). The minimum stock size threshold, one-half SSB_{MSY} , is estimated to be 68.78 million lb (31,197 mt).

The 2013 benchmark assessment utilizes an age-structured assessment model called ASAP. Documentation on 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/>.

Results of the July 2013 benchmark assessment indicate that the summer flounder stock was not overfished and overfishing was not occurring in 2012 relative to the biological reference points from the 2013 SAW/SARC 57. The fishing mortality rate has been below 1.0 since 1997 and was estimated to be 0.285 in 2012, below the threshold fishing mortality reference point $F_{MSY} = 0.309$. SSB was estimated to be 113.0 million lb (51,238 mt) in 2012, about 82% of $SSB_{MSY} = 137.6$ million lb (62,394 mt). NMFS declared the summer flounder stock rebuilt in 2010, based on the 2011 assessment update.

Regulatory Review

In September 2013, the SSC met to reconsider a previously implemented ABC for summer flounder for fishing year 2014, and consider specifying multi-year ABCs for up to three years. The SSC recommended three-year ABCs for summer flounder, for fishing years 2014-2016. However, the Council and Board recommended only two years of specifications (2014-2015), in order to align multi-year specifications timelines for summer flounder, scup, and black sea bass.

The 2014 overfishing limit (OFL) was determined to be 26.76 million lb (12,138 mt), based on an F_{MSY} proxy of $F = 0.309$ ($F_{35\%}$) and 2013 projected biomass. The approach used for specifying ABC assumes that the ABC would be caught in the preceding year. The SSB in the current year is then updated based on the presumed catch, and the resulting SSB estimate is multiplied by the F_{MSY} proxy to provide the OFL for the current year. The Council's risk policy was applied to the OFL to calculate the ABC. For 2014, the ABC associated with the OFL is 21.94 million lb (9,950 mt), based on the 2013 projected $B/B_{MSY} = 91\%$, Council risk policy $P^* = 0.360$, and a lognormal distribution with a CV = 60%.

For 2015, the overfishing limit (OFL) was determined to be 27.06 million lb (12,275 mt), based on an F_{MSY} proxy of $F = 0.309$ ($F_{35\%}$) and 2014 projected biomass. The Council's risk policy was applied to the OFL to calculate the ABC. For 2015, the ABC associated with the OFL is 22.77 million lb (10,329 mt), based on the 2014 projected $B/B_{MSY} = 95\%$, Council risk policy $P^* = 0.378$, and a lognormal distribution with a CV = 60%.

² Northeast Fisheries Science Center. 2013. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 13-14; 39 p.

The SSC considered summer flounder to be a level 3 assessment. In past level 3 assessments, the SSC has used a default CV for the OFL of 100%, based on a meta-analysis of statistical catch-at-age models. However, the SSC noted that the latest summer flounder stock assessment is considerably more accurate than other assessments of Mid-Atlantic stocks and, therefore, use of the default CV=100% was likely inappropriate. Accordingly, the SSC determined that it would use a CV = 60%.

The SSC considered the following to be the most significant sources of uncertainty associated with the determination of the OFL and ABC:

- The potential for sex-specific differences in life history parameters.
- The existence of spatially distinct size distributions.
- NEFSC surveys and PMAFS fishery sampling confirm sexually-dimorphic and time-varying spatial differences in growth that are not fully accounted for in the stock assessment because not all fishery and survey catches are fully and independently sampled by sex.
- Landings from commercial fishery assume no under-reporting of summer flounder landings so should be considered minimal estimates.
- The current assumption for M remains an ongoing source of uncertainty. M is highly influential on assessment results and impacts nearly all aspects of the assessment and evaluation of status.
- The stock-recruitment relationship could not be defined internally in the model and thus an F_{MSY} proxy was used to calculate the OFL.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, gear requirements, etc.) have remained generally constant since 1999.

Basis for 2015 Staff 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. Last year, multi-year specifications were set for summer flounder for 2014 and 2015, with the understanding that recent fishery data would be reviewed in 2014 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 2014 Summer Flounder Data Update do not suggest any major issues that would necessitate revising the current measures. Therefore, staff recommends summer flounder catch limits and commercial management measures remain unchanged from those previously specified for 2015.

Other Management Measures

Recreational and Commercial ACLs

As defined by the Omnibus ACLs and AMs Amendment, the ABC is equivalent to the total allowable catch (TAC), and is equal to the sum of the commercial and recreational ACLs (Figure 1). The ABC for 2015 is comprised of both landings and discards. Based on the allocation percentages in the FMP, 60% of the landings are allocated to the commercial fishery, and 40% to the recreational fishery. Discards are apportioned based on the contribution from each fishing sector using a 3-year moving average percentage; from 2010-2012, on average, 48% of dead discards were attributable to the recreational fishery, and 52% to the commercial fishery (Table 1).

Summer Flounder Flowchart

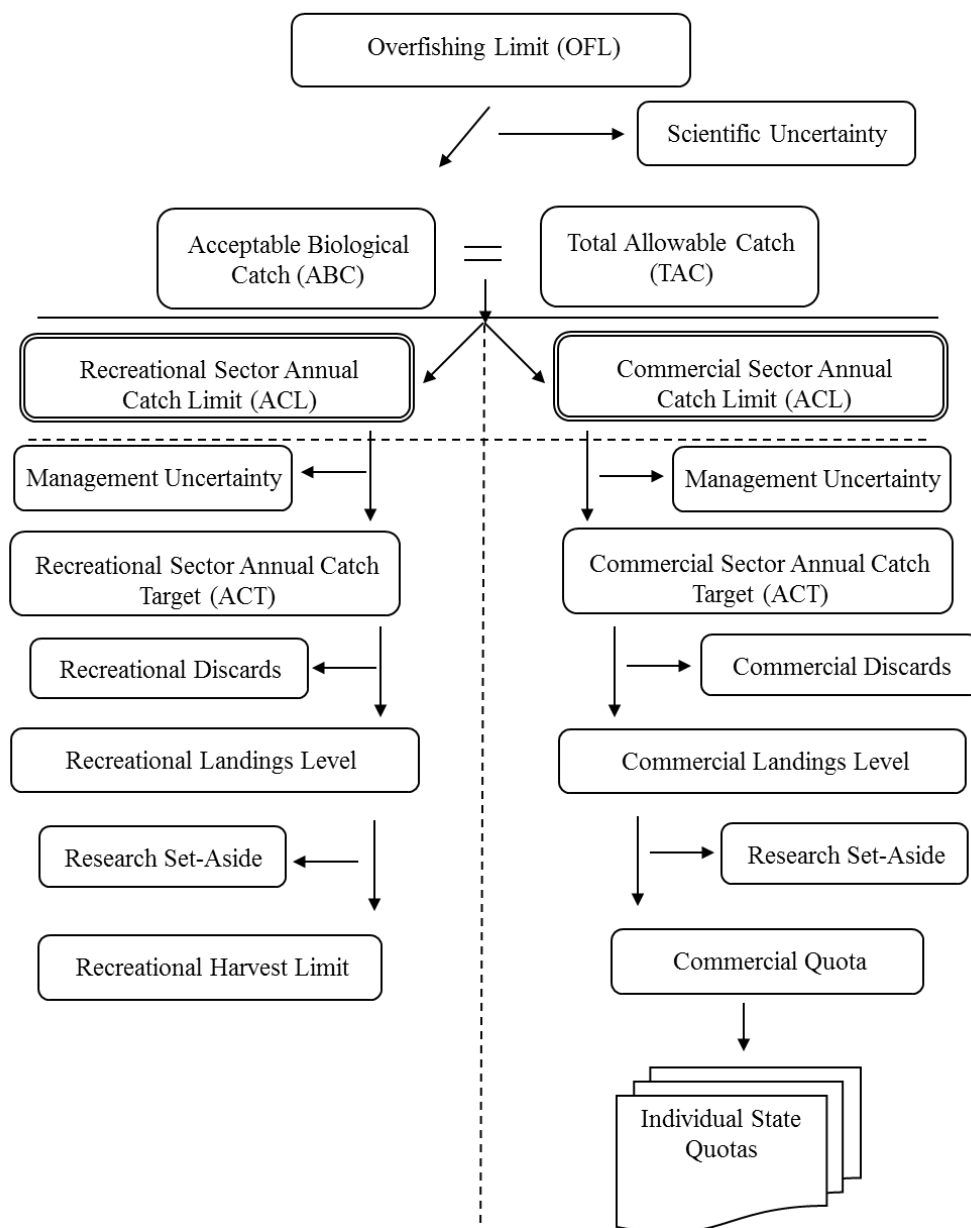


Figure 1: Flowchart for summer flounder catch and landings limits.

Annual Catch Targets

The Summer Flounder Monitoring Committee is responsible for recommending Annual Catch Targets (ACTs) for the Council to consider. The relationships 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 Magnuson-Stevens Act. The Monitoring Committee is responsible for considering all relevant sources of management uncertainty in the summer flounder 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 sector-specific landings performance for recent years indicates that recreational fishery landings have consistently been below the recreational harvest limits for the past five years (Table 3). The commercial fishery has reported landings levels generally very near the commercial quotas for the last several years, with the exception of a slightly higher than average overage in 2013 (Table 3). The quota monitoring systems in place are typically effective in allowing timely reactions to landings levels that approach quotas. Staff recommends no modifications to the current ACTs, which are set equal to the sector-specific ACLs for 2015.

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

Year	Commercial Landings (mil lb)^a	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb)^b	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2009	11.05	10.74	+3%	6.03	7.16	-16%
2010	13.55	12.79	+6%	5.11	8.59	-41%
2011	16.57	17.38	-5%	5.96	11.58	-49%
2012	12.91	12.73	+1%	6.49	8.49	-24%
2013	12.49	11.44	+9%	7.01	7.63	-8%
5-yr Avg.	-	-	+3%	-	-	-28%

^a Source: NMFS dealer data as of June 3, 2014. ^b Source: NMFS MRIP database as of June 25, 2014.

Commercial Quota, Recreational Harvest Limit, and Research Set-Aside

The landings-based allocations (i.e., commercial 60%, recreational 40%) were maintained in the derivation of the sector-specific ACLs and ACTs, such that the sum of the sector-specific landings levels (total allowable landings or TALs) 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 10.74 mil lb (4,870 mt), and the adjusted recreational harvest limit is 7.16 mil lb (3,247 mt). The commercial quota is divided amongst the states based on the allocation percentages given in Table 4.

Table 4: The summer flounder allocation formula for the commercial fisheries in each state.

State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

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 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.

Commercial Gear Regulations and Minimum Fish Size

Amendment 2 to the Summer Flounder FMP contains provisions that allow for changes in the minimum fish size and minimum net mesh provisions. Current regulations require a 14-inch total length (TL) minimum fish size in the commercial fishery and a 5.5 inch diamond or 6 inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder, i.e., 200 lb in the winter and 100 lb in the summer. The minimum fish size and mesh requirements may be changed through specifications based on the recommendations of the Monitoring Committee. Staff does not recommend any changes to the minimum fish size or mesh provisions.

Exemption Programs

Vessels landing more than 200 lb of summer flounder, east of longitude 72° 30.0'W, from November 1 through April 30, and not using a 5.5" minimum mesh (diamond) or 6" minimum mesh (square) net, are required to obtain a small mesh exemption program (SMEP) permit from NMFS. The FMP requires that sea sampling data be reviewed annually to determine if vessels fishing seaward of the line, with smaller than the required minimum mesh size and landing more than 200 lb of summer flounder, are discarding more than 10% of their summer flounder catch. Staff evaluated the available Northeast Fisheries Observer Program (NEFOP) data for the period from November 1, 2013 to March 25, 2014 (at the time of analysis, observer data were not yet available for trips taken after this date). These data indicate that a total of 343 trips were observed east 72° 30.0'W; 109 of these trips landed summer flounder (Table 5). Of those 109 trips that landed summer flounder, 38 reported using small mesh and 25 landed more than 200 lb of summer flounder. Of those 25 trips, 7 trips discarded more than 10% of their summer flounder catch. The percentage of trips that met all these criteria relative to the total number of observed trips east of 72° 30.0'W is 2.0% (7 trips/343 trips). The prior year percentage of trips that met the criteria was about 1.6%. Based on this information, staff recommends no change in the SMEP program.

In addition, vessels fishing with a two-seam otter trawl flynet are exempt. Specifically, flynets have large mesh in the wings that measure 8 to 64 inches, the belly of the net has 35 or more meshes that are at least 8 inches, and the mesh decreases in size throughout the body of the net to 2 inches or smaller. Only North Carolina has a flynet fishery at present. The supplemental memo from Tom Wadsworth dated June 25, 2014 indicates that no summer flounder were landed in the North Carolina flynet fishery in 2013, and overall flynet landings were low compared to previous years. Therefore, staff recommends no change to this exemption program.

Table 5: Numbers of trips that meet specific criteria based on observer trips from November 1, 2013 to March 25, 2014. Note: Small mesh exemption program permits are required from November 1- April 30; however, data are not yet available for this entire time frame for 2013-2014.

November 1, 2013 – March 25, 2014	Trips
<i>Trips with tows east of 72° 30' W Longitude</i>	343
<i>That landed summer flounder</i>	109
<i>That used small mesh</i>	38
<i>That landed more than 200 lb of summer flounder</i>	25
<i>Number that discarded >10% of summer flounder catch</i>	7
<i>Total discards (lb) from those 7 trips</i>	2,167
<i>Total landings (lb) from those 7 trips</i>	8,151
<i>Total catch (lb) from those 7 trips</i>	10,318

Bycatch

Fishermen from a few states have indicated that the commercial regulatory discards associated with the summer flounder quotas are a problem. As such, the states that allocate 15% of their quota to bycatch fisheries should continue to do so, and all other states should consider measures to reduce bycatch.



North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Pat McCrory
Governor

John E. Skvarla, III
Secretary

Memorandum

To: Kiley Dancy, MAFMC

From: Tom Wadsworth, NCDMF

Date: June 25, 2014

Subject: Species composition and landings from the 2013 North Carolina flynet fishery

North Carolina flynet landings totaled 5,787 lb in 2013 and species caught included croaker, scup and longfin squid. Landings by species are not reported because the data are confidential and cannot be distributed to sources outside the NC Division of Marine Fisheries (North Carolina General Statute 113-170.3 (c)). Confidential data can only be released in a summarized format that does not allow the user to track landings or purchases to an individual. There were no summer flounder landed in the 2013 flynet fishery. Note that flynet landings for all species were markedly lower than in previous years. The low landings in 2013 are likely due to shoaling of Oregon Inlet and the consequent lack of access to important landing ports in 2013. Many 2013 flynet landings by the NC fleet were instead made in Virginia or other states.