

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

Richard B. Robins, Jr.
Chairman

Lee G. Anderson
Vice Chairman


800 North State Street, Suite 201
Dover, Delaware 19901-3910
Tel: 302-674-2331
Toll Free: 877-446-2362
FAX: 302-674-5399
www.mafmc.org

Christopher M. Moore, Ph.D.
Executive Director

MEMORANDUM

DATE: November 28, 2011

TO: Chris Moore

FROM: Jessica Coakley 

SUBJECT: Summer Flounder Monitoring Committee Recommendations for Recreational Management Measures in 2012

In August 2011, the Council and Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) recommended commercial quotas and recreational harvest limits for the 2012 fishing year, after considering the recommendations Scientific and Statistical Committee (SSC) and Summer Flounder Monitoring Committee. A new summer flounder assessment update was released in October 2011 and the SSC and Summer Flounder Monitoring Committee have been asked to revisit their recommendations for 2012. Based on those recommendations, a recreational harvest limit will be derived and the Summer Flounder Monitoring Committee must recommend recreational management measures for 2012 that will constrain landings to that revised harvest limit. Preliminary information suggests that the recreational harvest limit for 2012 may be approximately 8.76 million lb if the SSC and Monitoring Committee provide advice for addressing scientific and management uncertainty consistent with their previous recommendations. As such, the staff recommendation contained within this document is based on a recreational harvest limit of 8.76 million lb.

The following is a review of recreational catch and landings data for the summer flounder fishery. Also, detailed analyses of MRFSS intercept and catch data are included to help in the Monitoring Committee's deliberations.

Recreational Catch and Landings

Recreational catch of summer flounder have fluctuated since 1981, from a peak in 1983 of 32.11 million fish to a time series low of 2.69 million fish in 1989 (Table 1). Landings were estimated to be 4.95 million lb in 2010. The 2011 MRFSS data are incomplete and preliminary. To date, only the first four

waves of catch and landings data are available (Table 2). The Monitoring Committee does an early review of the MRFSS data because the Council and Board agreed that recommendations should be made late in the current year (i.e., 2011) to give the states enough time to enact changes in their regulations for the upcoming year (i.e., 2012).

Catch estimates for 2011 waves 1-4 (January through August) are 20.38 million fish, which is slightly lower than the 2010 catch estimates (Table 2). The number of landed fish in these four waves increased from 1.43 to 1.70 million fish between 2010 and 2011. Landings by weight increased from 4.76 million lb to 5.33 million lb between 2010 and 2011 for these four waves. The mean weight of a landed fish in 2011 was 3.14 lb per fish. In the first four waves of 2011, recreational landings by number decreased in Massachusetts, Maryland, Virginia, and North Carolina, when compared to the 2010 landings estimates for the same period (Table 3).

Preliminary wave data for 2011 can be used to project catch and landings for the entire year. By assuming the same proportion of catch and landings by state and wave in 2011 as in 2010, projected catch estimates for 2011 would be 21.25 million fish and projected landings would be 5.50 million lb (Table 1). Because prior year proportions are used in the projections, for states with more restrictive seasons in 2011, landings will likely be overestimated, and for those with less restrictive measures landings will likely be underestimated.

Past Harvest Limits and Management Measures

Recreational harvest limits and management measures have varied since the FMP was first implemented from a high of 11.98 million lb in 2005 to a low of 6.22 million lb in 2008 (Table 4). Over the time period from 1993-2001, coastwide possession limits ranged from 3-10 fish with size limits ranging from 14.0-15.5 inches. In 2002, conservation equivalency was implemented and has been used as the preferred management system since then. In 2010, the state-specific possession limits ranged from 2-8 fish with size limits ranging from 14.0-21.0 inches, with assorted seasons (Table 5). In 2011, the state-specific possession limits ranged from 1-8 fish with size limits ranging from 15.0-20.5 inches, with assorted seasons (Table 6). The non-preferred and precautionary default measures that were adopted in 2011 (as required for implementation of conservation equivalency) included 2 fish with a minimum size of 18.0 inch TL and an open season from May 1 to September 30, and 2 fish with a 20.0 inch TL minimum fish size and an open season from May 1 to September 30, respectively. Based on projected landings for 2011, no states will exceed their state-specific 2011 targets (Table 7).

Accountability Measures

The Omnibus Annual Catch Limit (ACL) and Accountability Measures Amendment has been implemented. Therefore, new measures will apply to the summer flounder recreational fishery in 2012 and beyond. The NMFS Regional Administrator (RA) now has inseason closure authority for the summer flounder recreational fishery. Specifically, the RA will monitor recreational landings for summer flounder and determine if the recreational harvest limit has been met or exceeded based on observed landings (i.e., not projections of future landings). If the harvest limit has been met or exceeded, the summer flounder recreational fishery in the EEZ will be closed for remainder of the calendar year. In addition, there are overage deductions for the recreational fishery that have been linked to the recreational ACL being exceeded. If data indicate that the recreational sector ACL has been exceeded

and the landings have exceeded the recreational harvest limit, the exact poundage of the landings overage will be deducted, as soon as possible, from a subsequent single fishing year recreational sector ACT. The recreational harvest limit is derived from the ACT, after discards and RSA have been removed. The recreational sector ACL will be evaluated based on a 3-year moving average comparison of total catch (landings and dead discards). The 3-year moving average will be phased in over the first 3 years, beginning with 2012.

Intercept Data and Regulatory Compliance

Analysis of coastwide intercept data indicates that about 90 percent of the angler trips landed 4 or fewer fish in 2011 based on data through wave 4 (Table 8). Anglers were more successful in 2011 compared to 2010 when 90 percent of the trips landed 2 or fewer fish. In 1992, the year before the fishery was regulated with possession limits, 90 percent of the trips landing 4 or fewer fish.

Landings have been constrained by the various minimum size limits that are in effect for 2011 based on an analysis of length frequencies (Table 9). However, compliance has been less than 100 percent as there were fish measured less than the size limit many of the states and over the possession limits (Table 8). The percent of measured fish less than the specific size limit varies by state and landings may also have been affected by seasonal restrictions in 2011. The number of fish measured in 2011 is substantially lower than 2001, and this decreased sample size increases the uncertainty in the analyses used to evaluate regulations for 2012.

Methodology

The Monitoring Committee must consider and recommend whether coastwide measures or conservation equivalency (state-by-state or regional) are appropriate for 2012 (Table 10). Specifically, this group must recommend measures that will ensure the recreational harvest limit of 8.76 million lb will not be exceeded in 2012. Based on projected 2011 landings of 5.50 million lb, a coastwide reduction in landings would not be required. The projected 2011 landings are about 37 percent lower than the proposed 2012 recreational harvest limit. As previously mentioned, these projections are sensitive to prior year landings proportions.

The methodology detailed in Framework 2 (Addendum III) to the Summer Flounder, Scup and Black Sea Bass FMP and Framework 6 to the FMP (Addendum XVII) could be used to develop state-specific or regional regulations to meet the state-specific or region-specific targets (Table 11). Based on projected 2011 landings developed from 2011 preliminary MRFSS wave 1-4 data and 2010 prior year proportions, additional constraints would only be required by Delaware if conservation equivalency were implemented under the potential 2012 recreational harvest limit of 8.76 million lb. If state-by-state or regional conservation equivalency is adopted, Commission's staff will update the projections in Table 11 using preliminary 2011 wave 1-5 data prior to the development of management measure proposals. The Monitoring Committee must also make recommendations for a non-preferred coastwide alternative and a precautionary default under conservation equivalency.

It is noted that the level of precision of annual harvest estimates from MRFSS data depend on the survey sample sizes, the frequency of sampled angler trips that caught the species, and the variability of numbers caught among those trips. Harvest estimates are always progressively less precise at lower

levels of stratification; annual estimates are more precise than bimonthly estimates, coastal estimates are more precise than regional estimates, and regional estimates are more precise than state estimates. Coastwide measures would provide greater precision in the harvest estimates and MRFSS intercept data and would provide the opportunity to create a new base year(s) to characterize landings distributions at present [as opposed to relying on the 1998 base year].

In the past, this Committee used a regression to predict increases in the mean weight of summer flounder being landed, given the steadily increasing trend. However, because the 2009 and 2010 observed mean weights do not appear to be increasing, this Committee recommended using the observed 2010 mean fish weight (Table 2) to derive harvest targets for 2011 (Table 7). Consistent with this approach, the 2011 mean weight (Table 2) was used to derive targets for 2012 (Table 11).

A coastwide reduction table (minimum size/possession limit table; Table 12) was developed. However, this analysis only uses the landed, measured fish (type A fish) from each state and does not include any B2 discards. It is unreliable for developing 2012 coastwide measures because it was not developed using data that will inform minimum size decreases. Nearly all states would need to decrease their minimum size to achieve a common set of regulations under a 2012 recreational harvest limit of 8.76 million lb.

Fishing Trips and Year Class Effects

Table 13 provides an overview of coastwide recreational fishery performance and provides estimates of the number of summer flounder trips from MRFSS where summer flounder was reported as the primary target. An examination of summer flounder directed trips to total trips suggests that summer flounder continues to be a substantial component of the total number of angler trips, ranging from about 14-21 percent of total trips taken from 1993-2010 (Table 13). Predicting the number of summer flounder trips that might be taken in 2012 is complicated and not possible at this time. Recreational fishing demand models can be developed which predict how changes in fishing site characteristics (travel costs, catch rates, available species, water quality, etc.), fishery management policies (possession limits, size restrictions, closed seasons), and angler characteristics (age, gender, race, income, etc.) affect the demand for angler fishing trips. Unfortunately, due to data constraints, the characteristics contained in the models are usually rather narrowly defined which limits the predictive capability. This makes evaluation of changes in angler behavior difficult and complex. Changes in angler behavior may result in a breakdown in the assumptions associated with specific sets of regulations and their anticipated results. Summer flounder SSB reached the target level in 2010, and at the proposed catch the SSB is expected to remain near the target through 2012. Year-class effects in terms of fish availability can influence the expected impacts of management measures and should be considered.

2012 Staff Recommendation

Conservation Equivalency

Given the lack of information from which to derive a coastwide measure (as discussed in the Methodology section above), I recommend either state-by-state or regional conservation equivalency be used for 2012. States will face similar data challenges and limitation when developing more liberal state or regional measures under conservation equivalency.

Non-Preferred Coastwide Measures and Precautionary Default

If conservation equivalency is implemented, then a non-preferred coastwide measure and a precautionary default measure must be identified. The non-preferred coastwide measures would be comprised of an identical minimum fish size, possession limit, and season, for 2012, to be implemented by all states and in federal waters. The precautionary default measures are defined as the set of measures that would achieve at least the highest percent reduction for any state on a coastwide basis. It is intended to be an unappealing measure for any state to implement. The Commission would require adoption of the precautionary default measures by any state that either does not submit a summer flounder management proposal to the Commission's Summer Flounder Technical Committee, or that submits measures that are determined not to achieve the required level of reduction for that state.

Given the limited recreational data from which to reliably calculate these measures, I recommend the same non-preferred coastwide and precautionary default measures that were implemented in 2011. Specifically, I propose a non-preferred coastwide measure of 18.0 inch TL minimum size, 2 fish possession limit, and coastwide season from May 1 to September 30, 2012. In addition, I propose a default measure that includes a 20.0 inch TL minimum size, 2 fish possession limit, and coastwide season from May 1 to September 30, 2012. This default is likely to be more restrictive than any measure an individual state will implement in 2012.

2012 Recommendations in Summary

- 1) Conservation Equivalency (State-by-State or Regional) for 2012.
- 2) Under Conservation Equivalency:
 - A non-preferred coastwide measure comprised of a 18.0 inch TL minimum size, 2 fish possession limit, and coastwide open season from May 1 to September 30, 2012.
 - A precautionary default measure comprised of a 20.0 inch TL minimum size, 2 fish possession limit, and coastwide open season from May 1 to September 30, 2012.

Table 1. Summer flounder recreational catch and landings by year, Maine through North Carolina, 1981-2011. The number of fish released is presented as a proportion of the total catch (% Rel).

Year	Catch (‘000 fish)	Landings (‘000 fish)	Landings (‘000 lb)	% Released
1981	13,603	9,591	10,098	29%
1982	23,591	15,502	18,264	34%
1983	32,110	21,044	28,008	34%
1984	29,900	17,582	18,837	41%
1985	13,526	11,066	12,490	18%
1986	25,308	11,636	17,874	54%
1987	21,082	7,919	12,228	62%
1988	17,223	10,012	14,658	42%
1989	2,694	1,734	3,176	36%
1990	9,114	3,801	5,142	58%
1991	16,211	6,169	8,158	62%
1992	11,918	5,008	7,157	58%
1993	22,919	6,508	8,844	72%
1994	17,741	6,716	9,347	62%
1995	16,309	3,326	5,422	80%
1996	19,044	7,029	9,861	63%
1997	20,053	7,185	11,891	64%
1998	22,114	7,003	12,523	68%
1999	21,398	4,123	8,385	81%
2000	25,414	7,820	16,515	69%
2001	28,203	5,307	11,660	81%
2002	16,698	3,281	8,029	80%
2003	20,555	4,578	11,663	78%
2004	20,991	4,653	10,995	78%
2005	26,996	4,110	10,675	85%
2006	22,288	4,227	11,719	81%
2007	23,188	3,397	9,863	85%
2008	24,519	2,312	7,924	91%
2009	25,282	1,930	6,334	92%
2010	23,936	1,495	4,950	94%
2011 ^a	21,245	1,753	5,497	92%

^a Projected using proportion from 2010 MRFSS data and 2011 MRFSS wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011).

Table 2. Summer flounder recreational catch and landings for waves 1-4, Maine through North Carolina, 1981-2011.

Year	Catch (‘000 fish)	Landings (‘000 fish)	Landings (‘000 lb)	Mean Weight (lb)
1981	11,796	8,092	8,914	1.10
1982	20,129	12,621	15,312	1.21
1983	27,011	17,161	22,547	1.31
1984	26,410	14,667	15,273	1.04
1985	10,626	8,535	9,691	1.14
1986	21,335	8,899	13,286	1.49
1987	18,803	6,706	10,449	1.56
1988	13,957	7,970	11,761	1.48
1989	2,134	1,478	2,729	1.85
1990	7,290	3,033	4,133	1.36
1991	14,111	5,288	6,994	1.32
1992	9,834	3,995	5,694	1.43
1993	17,647	4,761	6,562	1.38
1994	15,058	5,503	7,607	1.38
1995	14,315	2,765	4,629	1.67
1996	17,250	6,203	8,720	1.41
1997	14,487	4,671	7,654	1.64
1998	19,036	5,963	10,608	1.78
1999	19,133	3,644	7,459	2.05
2000	22,140	6,873	14,155	2.06
2001	25,677	4,823	10,674	2.21
2002	14,464	2,861	7,029	2.46
2003	18,200	4,142	10,640	2.57
2004	18,860	4,218	9,990	2.37
2005	23,772	3,737	9,773	2.62
2006	21,244	3,954	11,052	2.80
2007	20,917	3,153	9,281	2.94
2008	23,232	2,237	7,716	3.45
2009	24,604	1,881	6,215	3.30
2010	22,928	1,426	4,755	3.33
2011	20,383	1,697	5,333	3.14

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011.

Table 3. Summer flounder recreational landings ('000 fish) by state, waves 1-4, 2002-2011.

State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
ME	-	-	-	-	-	-	-	-	-	-
NH	-	<1	-	-	2	-	1	-	-	-
MA	139	150	268	194	181	76	150	48	44	31
RI	168	198	276	168	260	229	205	51	85	136
CT	88	135	201	194	102	107	116	62	40	63
NY	659	1447	935	1094	795	691	565	264	258	277
NJ	888	1597	1748	1276	1489	1277	845	1001	574	775
DE	100	91	115	79	101	108	31	81	67	87
MD	47	39	58	63	52	84	66	88	27	26
VA	621	429	432	525	787	440	212	224	257	246
NC	133	36	132	78	122	142	29	43	65	50

Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011.

Table 4. Summary of Federal management measures for the summer flounder recreational fishery, 1993-2011, and potential 2012 recreational harvest limit.

Measure	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Harvest Limit (m lb)	8.38	10.67	7.76	7.41	7.41	7.41	7.41	7.41	7.16	9.72
Landings (m lb)	8.84	9.35	5.42	9.86	11.89	12.52	8.39	16.52	11.66	8.03
Possession Limit	6	8	6/8	10	8	8	8	8	3	b
Size Limit (TL in)	14	14	14	14	14.5	15	15	15.5	15.5	b
Open Season	5/15 - 9/30	4/15 - 10/15	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31	1/1 - 12/31	5/29 - 9/11	5/10 - 10/2	4/15 - 10/15	b
Measure	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Harvest Limit (m lb)	9.28	11.21	11.98	9.29	6.68	6.22	7.16	8.59	11.58	8.76 ^c
Landings (m lb)	11.66	11.00	10.68	11.72	9.86	7.92	6.33	4.95	5.50 ^a	-
Possession Limit	b	b	b	b	b	b	b	b	b	b
Size Limit (TL in)	b	b	b	b	b	b	b	b	b	b
Open Season	b	b	b	b	b	b	b	b	b	b

^a Projected using proportion from 2010 MRFSS data and 2011 MRFSS wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011). ^b State-specific conservation equivalency measures. ^c Assumed value, subject to change.

Table 5. Summer flounder recreational management measures by state, 2010.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	18.5	5 fish	May 22-Sept. 6
Rhode Island	19.5	6 fish	May 1-Dec. 31
Connecticut	19.5	3 fish	May 15-Aug. 25
New York	21.0	2 fish	May 15-Sept. 6
New Jersey	18.0	6 fish	May 29-Sept. 6
Delaware	18.5	4 fish	Jan. 1-Oct. 13
Maryland	19.0	3 fish	April 17-Nov. 22
PRFC	18.5	4 fish	All year
Virginia	18.5	4 fish	All year
North Carolina	15.0 in all waters except the following: 14.0 in Pamlico Sound ^A , Albemarle Sound ^B , and Browns Inlet South ^C (lat/log are listed below)	8 fish	All Year

- A. **PAMLICO SOUND** - No person may possess flounder less than 14 inches total length taken from internal waters for recreational purposes west of a line beginning at a point on Point of Marsh in Carteret County at 35° 04.6166'N – 76° 27.8000'W, then running northeasterly to a point at Bluff Point in Hyde County at 35° 19.7000'N – 76° 09.8500'W. In Core and Clubfoot creeks, the Highway 101 Bridge constitutes the boundary north of which flounder must be at least 14 inches total length.
- B. **ALBEMARLE SOUND** - No person may possess flounder less than 14 inches total length taken from internal waters for recreational purposes west of a line beginning at a point 35° 57.3950'N – 76° 00.8166'W on Long Shoal Point; running easterly to a point 35° 56.7316'N – 75° 59.3000' W near Marker "5" in Alligator River; running northeasterly along the Intracoastal Waterway to a point 36° 09.3033'N - 75° 53.4916'W near Marker "171" at the mouth of North River; running northwesterly to a point 36° 09.9093'N – 75° 54.6601'W on Camden Point.
- A. **BROWNS INLET-SOUTH** – No person may possess flounder less than 14 inches total length in internal and Atlantic Ocean fishing waters for recreational purposes west and south of a line beginning at a point 34° 37.0000'N – 77° 15.000'W; running southeasterly to a point 34° 32.0000'N – 77° 10.0000'W.

Table 6. Summer flounder recreational management measures by state, 2011.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	17.5	5 fish	May 22-September 30
Rhode Island	18.5	7 fish	May 1-December 31
Connecticut*	18.5	3 fish	May 15-September 5
*At 40 designated Shore sites in CT	17.0	1 fish	May 15-September 5
New York	20.5	3 fish	May 1-September 30
New Jersey	18.0	8 fish	May 7-September 25
Delaware	18.0	4 fish	January 1-October 23
Maryland	18.0	3 fish	April 16-November 30
PRFC	17.5	4 fish	All year
Virginia	17.5	4 fish	All year
North Carolina	15.0	6 fish	All Year

Table 7. Projected summer flounder recreational landings (in '000 of fish) relative to targets, by state for 2011.

State	2011 Target	2011 Landings^{a,b}	Overage (+%)/ Underage (-%) Relative to 2011 Target
MA	187	31	-83%
RI	193	136	-30%
CT	128	63	-51%
NY	602	279	-54%
NJ	1335	780	-42%
DE	107	93	-13%
MD	101	38	-62%
VA	570	263	-54%
NC	191	70	-63%

^a Projected using proportion from 2010 MRFSS data and 2011 MRFSS wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011).

^b Because prior year proportions are used, for states with more restrictive seasons in 2011, landings will be overestimated, and for those with less restrictive measures landings will be underestimated.

Table 8. The percent of successful anglers landing 1 to 12 summer flounder (MRFSS Type A fish) per trip, waves 1-4, 2011.

C-Per-Trip	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	22	4.72	26	5.58
2	300	64.38	326	69.96
3	18	3.86	344	73.82
4	76	16.31	420	90.13
5	4	0.86	424	90.99
6	23	4.94	447	95.92
7	2	0.43	449	96.35
8	9	1.93	458	98.28
10	4	0.86	462	99.14
12	4	0.86	466	100.00

Table 9. The percent of measured summer flounder (MRFSS Type A fish) under state specific size limits (2001, 2010, and 2011). The number in parentheses is sample size (N).

State	2001			2010			2011 ^b		
	% Below Size Limit	Number Measured	Size Limit	% Below Size Limit	Number Measured	Size Limit	% Below Size Limit	Number Measured	Size Limit
ME	-	-	-	-	-	-	-	-	-
NH	-	-	-	-	-	-	-	-	-
MA	3.9	(26)	16.5	26.7	(30)	18.5	16.7	(6)	17.5
RI	14.8	(196)	17.5	8.6	(70)	19.5	7.1	(198)	18.5
CT	3.1	(129)	17.5	3.6	(28)	19.5	0	(37)	17.0 ^d
NY	5.8	(274)	17.0	21.5	(121)	21.0	3.0	(203)	20.5
NJ	14.7	(1169)	16.0	18.9	(281)	18.0	25.4	(452)	18.0
DE	9.2	(325)	17.5	9.5	(222)	18.5	10.6	(160)	18.0
MD	4.0	(101)	17.0	1.7	(59)	19.0	2.6	(38)	18.0
VA	3.9	(1094)	15.5	13.3	(158)	18.5	1.5	(198)	17.5
NC	66.6	(915)	15.5	1.2	(262)	14.0/ 15.0 ^a	4.7	(170)	15.0
Coast	17.2	(4229)	15.5	23.4	(1231)	18.0	16.3	(1462)	18.0

^aFor North Carolina, Internal waters and External waters, respectively; % below given in table is below lowest size limit

^bOnly includes wave 1-4 MRFSS data. (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 24, 2011)

^c Connecticut implemented a 18.5 inch, except for 40 designated shore sites at 17.0 inches; % below given in table is below lowest size limit given.

Table 10. Procedures for establishing summer flounder recreational management measures.

August	
Council/Commissions's Board recommend recreational harvest limit.	
October	
MRFSS data available for current year through wave 4.	
November	
Monitoring Committee meeting to develop recommendations to Council: Overall % reduction required. Use of coastwide measures or state conservation equivalency. **Precautionary default measures. **Coastwide measures.	
December	
Council/Board meeting to make recommendation to NMFS State Conservation Equivalency or Coastwide measures.	
<i>State Conservation Equivalency Measures</i>	<i>Coastwide Measures</i>
Late December	Early January
Commission staff summarizes and distributes <u>state-specific and multi-state conservation equivalency</u> guidelines to states.	Council staff submits recreational measure package to NMFS. Package includes: -Overall % reduction required. -Coastwide measures.
Early January	February 15
Council staff submits recreational measure package to NMFS. Package includes: - Overall % reduction required. - Recommendation to implement conservation equivalency and precautionary default measures (Preferred Alternative). -Coastwide measures (Non-preferred Alternative).	NMFS publishes proposed rule for recreational measures announcing the overall % reduction required and Coastwide measures.
States submit conservation equivalency proposals to ASMFC.	April
January 15	NMFS publishes final rule announcing overall % reduction required and Coastwide measures.
ASMFC distributes <u>state-specific or multi-state conservation equivalency proposals</u> to Technical Committee.	**Precautionary default measures - measures to achieve at least the % required reduction in each state, e.g., one fish possession limit and 15.5 inch bag limit would have achieved at least a 41% reduction in landings for each state in 1999. **Coastwide measures - measure to achieve % reduction coastwide.
Late January	
ASMFC Technical Committee meeting: -Evaluation of proposals. -ASMFC staff summarizes Technical Committee recommendations and distributes to Board.	
February	
Board meeting to approve/disapprove proposals and submits to NMFS within two weeks, but no later than end of February.	
March 1 (on or around)	
NMFS publishes proposed rule for recreational measures announcing the overall % reduction required, <u>state-specific or multi-state conservation equivalency</u> measures and precautionary default measures (as the preferred alternative), and coastwide measures as the non-preferred alternative.	
March 15	
During comment period, Board submits comment to inform whether conservation equivalency proposals are approved.	
April	
NMFS publishes final rule announcing overall % reduction required and one of the following scenarios: - <u>State-specific or multi-state conservation equivalency</u> measures with precautionary default measures, or -Coastwide measures.	

Table 11. Summer flounder landings (number in thousands) by state for 1998, the 2011 projected landings (number in thousands), and the 2012 target (number in thousands) under the assumed recreational harvest limit of 8.76 million lb. The percent reduction necessary to achieve the 2012 recreational harvest limit relative to 2011 landings is also presented.

State	1998	2012 Target ^a	2011 ^{b,c}	% Reduction
MA	383	153	31	0
RI	395	158	136	0
CT	261	104	63	0
NY	1,230	492	279	0
NJ	2,728	1091	780	0
DE	219	88	93	5.6
MD	206	82	38	0
VA	1,165	466	263	0
NC	391	156	70	0

^aBased on a 60.0% reduction in 1998 landings and mean weight of 3.14 lb per fish.

^bProjected using proportion from 2010 MRFSS data and 2011 MRFSS wave 1-4 data (Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011).

^cBecause prior year proportions are used, for states with more restrictive seasons in 2011, landings will be overestimated, and for those with less restrictive measures landings will be underestimated. If state-by-state or regional conservation equivalency is adopted, ASMFC staff will update the projections using MRFSS 2011 wave 1-5 data.

Table 12. The effect of various size and possession limits on 2011 summer flounder recreational landings. The tables contain the proportional reduction in number of summer flounder landed assuming regulations are 100% effective. Note: Reduction is calculated as the difference between the values associated with the current regulations and those being evaluated.

Bag	15.0	16.0	17.0	17.5	18.0	18.5	19.0	20.0	20.5
1	0.3604	0.3706	0.3794	0.3964	0.4282	0.4729	0.5482	0.6895	0.7432
2	0.1388	0.1536	0.1665	0.1917	0.2455	0.3299	0.4537	0.6373	0.7101
3	0.0721	0.0877	0.1005	0.1291	0.1905	0.2917	0.4282	0.6306	0.7094
4	0.0375	0.0537	0.0665	0.1007	0.1652	0.2784	0.4193	0.6244	0.7087
5	0.0180	0.0341	0.0480	0.0850	0.1495	0.2690	0.4163	0.6215	0.7080
6	0.0082	0.0254	0.0393	0.0763	0.1435	0.2658	0.4140	0.6215	0.7080
7	0.0054	0.0226	0.0365	0.0735	0.1407	0.2658	0.4140	0.6215	0.7080
8	0.0054	0.0226	0.0365	0.0735	0.1407	0.2658	0.4140	0.6215	0.7080
9	0.0054	0.0226	0.0365	0.0735	0.1407	0.2658	0.4140	0.6215	0.7080
10	0.0054	0.0226	0.0365	0.0735	0.1407	0.2658	0.4140	0.6215	0.7080

Table 13. Number of summer flounder recreational fishing trips, harvest limit, landings, and fishery performance from Maine through North Carolina, 1993 to 2012.

Year	Number of Fishing Trips ^a	Percentage of Directed Trips relative to Total Trips ^{a,b}	Recreational Harvest Limit (million lb)	Recreational Landings of Summer Flounder (million lb) ^d	Percentage Overage (+)/ Underage(-)
1993	4,671,638	17.8	8.38	8.84	+5
1994	5,769,037	20.8	10.67	9.35	-12
1995	4,683,754	17.2	7.76	5.42	-30
1996	4,885,179	17.9	7.41	9.86	+33
1997	5,595,636	18.8	7.41	11.89	+60
1998	5,268,926	20.5	7.41	12.52	+69
1999	4,219,909	16.8	7.41	8.39	+13
2000	5,802,215	16.7	7.41	16.52	+123
2001	6,130,383	16.6	7.16	11.66	+63
2002	4,564,011	14.8	9.72	8.03	-17
2003	5,624,387	16.0	9.28 ^c	11.66	+26
2004	5,129,166	14.9	11.21 ^c	11.00	-2
2005	5,560,041	15.1	11.98 ^c	10.68	-11
2006	5,447,976	14.2	9.29 ^c	11.72	+26
2007	5,789,397	14.7	6.68 ^c	9.86	+48
2008	5,427,175	14.7	6.21 ^c	7.92	+28
2009	4,818,629	15.9	7.16 ^c	6.33	-12
2010	4,643,291	15.2	8.59 ^c	4.95	-42
2011	NA	NA	11.58 ^c	NA	NA
2012	NA	NA	8.76 ^{c,e}	NA	NA

^aEstimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Scott Steinback, NMFS/NER/NEFSC.

^bSource of total trips for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 21, 2011.

^cAdjusted for research set-aside.

^dSource: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, November 18, 2011.

^eRecreational harvest limit - assumed for 2012; subject to change. NA = Data not available.