Mid-Atlantic Fishery Management Council
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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: February 20, 2019

To: Council

From: Kiley Dancy, Staff

Subject: Summer Flounder Recreational Measures for 2019

On Wednesday, March 6, following the consideration of revised 2019 specifications for summer flounder, the Council and Board will also need to adopt recreational management measures for summer flounder, including the use of either conservation equivalency or coastwide measures. Materials listed below are provided for the Council and Board's consideration of this agenda item. Please note that some materials are behind other tabs.

1) Staff memo on 2019 recreational summer flounder measures dated February 12, 2019;
2) Public comments received through February 20, 2019 on summer flounder recreational measures.

Additional materials will be posted as supplemental prior to the meeting, including:

1) Monitoring Committee recommendations from their Wednesday, February 27 meeting;
2) Advisory Panel recommendations from their Friday, March 1 meeting.

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Date: February 12, 2019

To: Chris Moore, Executive Director

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Subject: Summer Flounder Recreational Management Measures for 2019

At the March 2019 joint meeting, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Board (Board) will consider revising the 2019 commercial quota and recreational harvest limit (RHL) for summer flounder based on the results of a November 2018 peer reviewed stock assessment, as described in a separate staff memo dated February 11, 2019. The Council and Board will also have to specify recreational management measures for summer flounder for 2019 to constrain recreational harvest to the revised 2019 RHL.

Each year, the Monitoring Committee (MC) is tasked with recommending recreational management measures (possession limits, size limits, and seasons) to constrain harvest to the RHL. For summer flounder, this includes recommending the use of coastwide measures (identical measures in all states and federal waters) or conservation equivalency (state- or region-specific measures in state waters, and "non-preferred" federal measures that are waived in favor of the state measures). In either case, the combination of measures is designed to constrain harvest to the RHL.

The staff-recommended revised 2019 RHL for summer flounder is 7.21 million lb (an increase of approximately 40% relative to the interim 2019 RHL of 5.15 million lb, and an increase of approximately 63% relative to the 2018 RHL of 4.42 million lb). This recommendation is based on the combination of a particular stock projection methodology and a staff-recommended application of the Council's risk policy, including the use of variable (non-averaged) Acceptable Biological Catches (ABCs) over 2019-2021. The Scientific and Statistical Committee (SSC) has been asked to provide recommendations for both variable and averaged ABC approaches to allow the Council and Board to make a policy decision regarding which approach is best for the fisheries. Thus, the MC should consider whether recreational measures for 2019 would need to vary under these two approaches. Assuming an averaged approach and keeping the rest of the staff recommendation methodology the same, the 2019 RHL would be 8.02 million pounds.

In addition, the RHL is based on the staff-recommended configuration of commercial and recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs), including taking no reduction from the ACL to the ACT for management uncertainty. If the SSC and MC recommendations differ from the staff recommendations, the currently recommended RHL may change, and the resulting recreational measures recommendations described in this document may need to be adapted accordingly.

The 2018 stock assessment incorporated revised recreational data over the full time series of estimated recreational catch (1981-2017) from the Marine Recreational Information Program (MRIP). In July 2018, MRIP released revisions to their time series of recreational catch and landings estimates based on adjustments for a revised angler intercept methodology and a new effort estimation methodology (i.e., a transition from a telephone-based effort survey to a mail-based effort survey). The revised estimates of catch and landings are several times higher than the previous estimates for shore and private boat modes, substantially raising the overall summer flounder catch and harvest estimates. On average, the new landings estimates for summer flounder (in pounds) are 1.8 times higher over the full time series (1981-2017), and 2.3 times higher over the past 10 years (2008-2017). In 2017, new estimates of landings in pounds were 3.16 times higher than the pre-calibrated estimates.

Now that the revised MRIP data has been incorporated into a peer reviewed and accepted stock assessment, the Monitoring Committee should develop recreational measures based on the revised data going forward. However, past performance relative to harvest limits (for 2018 and years prior) can only be evaluated using the "old" (pre-calibrated) MRIP estimates, given that past harvest limits were set with stock assessments using this old MRIP data.

Recreational Catch and Landings

In this section, recreational data and fishery performance information is presented along with a comparison of MRIP estimates pre- and post-calibration ("old" and "new" MRIP estimates).

MRIP data for 2018 are incomplete and preliminary, with only the first five waves (January through October) available. Preliminary wave 1-5 data for 2018 were used to project catch and landings for the entire year by assuming the same proportion of catch and landings by wave in 2017. These projections are typically assumed to be overestimates for states with more restrictive seasonal measures in remaining waves of the current year, and underestimates for those with less restrictive seasonal measures. Between 2017 and 2018, no states made changes to seasonal measures for wave 6 (see Table 6); in addition, wave 6 has historically accounted for a small percentage of annual summer flounder harvest. Thus, projections using data through wave 5 are expected to be close to the final 2018 estimates. Table 1 shows projected catch and harvest for 2018, in both pre- and post-calibrated MRIP estimates. In post-calibrated numbers, total projected catch for 2018 is 22.39 million fish, and projected landings are 7.20 million lb or 2.26 million fish.

Table 1: Comparison of back-calibrated and post-calibration estimates for preliminary 2018 data through wave 5, and projected 2018 data.

	Harvest (mil lb)		**Harvest (mil fish)**		**Catch (mil fish)**	
	Old MRIP	***New MRIP***	***Old MRIP***	***New MRIP***	***Old MRIP***	***New MRIP***
Preliminary 2018 through Wave 5	3.284	7.159	1.020	2.239	9.308	22.338
Projected 2018	3.286	**7.197**	1.022	**2.259**	9.312	**22.392**

Table 2 provides the time series of recreational harvest (in number and weight) and catch (in number of fish) for 1981-2018 (with 2018 projected), comparing the pre- and post-calibration MRIP estimates. Under the previous time series, harvest ranged from a high of 27.97 million lb or 21.00 million fish (1983) to a low of 3.16 million lb (1989) and 1.03 million fish (2017). Catch ranged from a high of 32.06 million fish in 1983 to a low of 2.68 million fish in 1989. Under the revised MRIP estimates, the time series high of

harvest is 36.74 million lb or 25.78 million fish in 1983, with a low in harvest of 5.66 million lb or 3.10 million fish (1989). Revised catch estimates show a high catch of 58.89 million fish in 2010 and a low in catch of 5.06 million fish in 1989 (Table 2).

Table 3 shows the percent of summer flounder released (relative to total catch in numbers of fish) and the mean weight of landed summer flounder each year from 1981-2018.

Table 2: Summer flounder recreational catch and landings, for pre- and post-calibrated MRIP estimates, Maine through North Carolina, 1981-2018, all waves (2018 projected based on data through wave 5).[a]

Year	Old MRIP			New MRIP		
	Catch (mil fish)	Landings (mil fish)	Harvest (mil lb)	Catch (mil fish)	Harvest (mil fish)	Harvest (mil lb)
1981	13.579	9.567	10.081	22.765	17.018	15.854
1982	23.562	15.473	18.233	26.068	19.294	23.718
1983	32.062	20.996	27.969	36.351	25.780	36.740
1984	29.785	17.475	18.765	39.817	23.449	28.226
1985	13.526	11.066	12.490	26.281	21.389	25.142
1986	25.292	11.621	17.861	32.518	16.384	26.466
1987	21.023	7.865	12.167	29.937	11.926	23.453
1988	17.171	9.960	14.624	25.452	14.822	20.787
1989	2.677	1.717	3.158	5.065	3.103	5.657
1990	9.101	3.794	5.134	15.474	6.074	7.754
1991	16.075	6.068	7.960	24.832	9.834	12.906
1992	11.910	5.002	7.148	21.111	8.787	12.669
1993	22.904	6.494	8.831	36.182	9.801	13.730
1994	17.725	6.703	9.328	26.108	9.823	14.288
1995	16.308	3.326	5.421	27.836	5.473	9.017
1996	18.994	6.997	9.820	29.745	10.184	15.021
1997	20.027	7.167	11.866	31.867	11.037	18.525
1998	22.086	6.979	12.477	39.086	12.371	22.858
1999	21.378	4.107	8.366	42.879	8.096	16.696
2000	25.384	7.801	16.468	43.257	13.045	27.025
2001	28.187	5.294	11.637	43.678	8.029	18.556
2002	16.674	3.262	8.008	34.481	6.505	16.287
2003	20.532	4.559	11.638	36.212	8.209	21.487
2004	20.336	4.316	11.022	37.945	8.158	21.200
2005	25.806	4.027	10.915	45.980	7.044	18.545
2006	21.400	3.950	10.505	37.903	6.947	18.632
2007	20.732	3.108	9.337	35.265	4.850	13.889
2008	22.897	2.350	8.151	39.483	3.781	12.340
2009	24.085	1.806	6.030	50.622	3.645	11.657
2010	23.722	1.501	5.108	58.891	3.512	11.336
2011	21.559	1.840	5.956	56.043	4.327	13.484
2012	16.528	2.272	6.490	44.705	5.737	16.134
2013	16.105	2.521	7.355	44.962	6.601	19.414
2014	18.969	2.458	7.389	44.578	5.365	16.235
2015	12.152	1.621	4.721	34.140	4.034	11.830
2016	14.171	2.028	6.182	31.239	4.302	13.239
2017	8.442	1.028	3.189	28.033	3.166	10.064
2018 (proj.)[b]	9.312	1.022	3.286	22.392	2.259	7.197

[a] Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018 and December 19, 2018. [b] Projected using proportion by wave from 2017 MRIP data and 2018 MRIP wave 1-5 data (pre-calibrated data for "old" MRIP projection).

Table 3: Summer flounder % released and mean weight of landed fish for pre- and post-calibrated MRIP estimates, 1981-2018, all waves (2018 based on projections with data through wave 5).[a]

Year	% Released		Mean weight of landed fish (lb)	
	Old MRIP	New MRIP	Old MRIP	New MRIP
1981	30%	25%	1.05	0.93
1982	34%	26%	1.18	1.23
1983	35%	29%	1.33	1.43
1984	41%	41%	1.07	1.20
1985	18%	19%	1.13	1.18
1986	54%	50%	1.54	1.62
1987	63%	60%	1.55	1.97
1988	42%	42%	1.47	1.40
1989	36%	39%	1.84	1.82
1990	58%	61%	1.35	1.28
1991	62%	60%	1.31	1.31
1992	58%	58%	1.43	1.44
1993	72%	73%	1.36	1.40
1994	62%	62%	1.39	1.45
1995	80%	80%	1.63	1.65
1996	63%	66%	1.40	1.47
1997	64%	65%	1.66	1.68
1998	68%	68%	1.79	1.85
1999	81%	81%	2.04	2.06
2000	69%	70%	2.11	2.07
2001	81%	82%	2.20	2.31
2002	80%	81%	2.45	2.50
2003	78%	77%	2.55	2.62
2004	79%	79%	2.55	2.60
2005	84%	85%	2.71	2.63
2006	82%	82%	2.66	2.68
2007	85%	86%	3.00	2.86
2008	90%	90%	3.47	3.26
2009	93%	93%	3.34	3.20
2010	94%	94%	3.40	3.23
2011	91%	92%	3.24	3.12
2012	86%	87%	2.86	2.81
2013	84%	85%	2.92	2.94
2014	87%	88%	3.00	3.02
2015	87%	88%	2.91	2.92
2016	86%	86%	3.05	3.08
2017	88%	89%	3.10	3.18
2018 (proj.)[b]	89%	90%	3.23	3.20

[a] Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018 and December 19, 2018.

[b] Harvest data used in calculations is projected using proportion by wave from 2017 MRIP data and 2018 MRIP wave 1-5 data (using pre-calibrated data for "old" MRIP calculations).

Landings by state in recent years, in thousands of fish in both pre-calibrated and post-calibrated MRIP estimates, are shown in Table 4 (2018 projected)

Table 4: Summer flounder recreational harvest (in thousands of fish) for pre- and post-calibration MRIP estimates ("Old" and "New" estimates, respectively), by state for all waves (January-December), 2009-2018 (projected). New estimates = bold; old estimates = *italics*.[a]

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 (proj)[b]
NH	*Old*	-	-	-	*<1*	-	-	-	-	-	-
	New	**-**	**-**	**-**	**<1**	**-**	**-**	**-**	**-**	**-**	**-**
MA	*Old*	*50*	*45*	*58*	*76*	*31*	*113*	*79*	*55*	*27*	*18*
	New	**91**	**149**	**184**	**233**	**80**	**256**	**213**	**106**	**65**	**65**
RI	*Old*	*72*	*118*	*161*	*103*	*128*	*185*	*164*	*87*	*63*	*79*
	New	**128**	**346**	**380**	**224**	**235**	**340**	**222**	**113**	**156**	**166**
CT	*Old*	*45*	*35*	*47*	*63*	*270*	*120*	*93*	*218*	*88*	*162*
	New	**62**	**73**	**99**	**135**	**529**	**281**	**252**	**338**	**121**	**162**
NY	*Old*	*299*	*334*	*376*	*509*	*518*	*508*	*492*	*712*	*222*	*260*
	New	498	596	661	1,005	1,385	1,173	1,517	1,800	1,186	561
NJ	*Old*	*825*	*552*	*737*	*1,130*	*1,232*	*1,175*	*497*	*755*	*451*	*441*
	New	**1,721**	**1,318**	**1,969**	**3,086**	**3,450**	**2,418**	**1,180**	**1,456**	**1,200**	**971**
DE	*Old*	*87*	*54*	*67*	*45*	*58*	*93*	*51*	*90*	*33*	*36*
	New	169	144	141	101	120	189	120	173	100	84
MD	*Old*	*65*	*25*	*15*	*23*	*53*	*80*	*44*	*22*	*26*	*21*
	New	**178**	**76**	**47**	**99**	**119**	**118**	**98**	**40**	**57**	**55**
VA	*Old*	*289*	*260*	*318*	*260*	*186*	*139*	*159*	*72*	*92*	*40*
	New	**579**	**564**	**659**	**678**	**560**	**439**	**334**	**212**	**188**	**141**
NC	*Old*	*75*	*77*	*60*	*63*	*45*	*46*	*41*	*18*	*26*	*13*
	New	**219**	**246**	**187**	**177**	**124**	**150**	**99**	**65**	**91**	**53**
Coast	*Old*	*1,806*	*1,501*	*1,840*	*2,272*	*2,521*	*2,458*	*1,621*	*2,028*	*1,028*	*1,021*
	New	**3,645**	**3,512**	**4,327**	**5,737**	**6,601**	**5,365**	**4,034**	**4,302**	**3,166**	**2,258**

[a] Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018 and December 19, 2018.

[b] Projected using proportion by wave from 2017 MRIP data and 2018 MRIP wave 1-5 data.

Past Harvest Limits and Management Measures

RHLs for summer flounder were first implemented in 1993. Since then, they have varied from a high of 11.98 million lb in 2005 to a low of 3.77 million lb in 2017. Performance relative to past RHLs can only be evaluated using pre-calibration MRIP data, since past RHLs were set using assessments that incorporated the previous MRIP time series. Recreational harvest (pre-calibration data) relative to the RHL has varied from a high of 122% over the RHL (2000) to a low of 49% under the RHL (2011; Table 5).

From 1993-2001, coastwide measures were in place for all states and federal waters, with possession limits ranging from 3-10 fish and size limits ranging from 14.0-15.5 inches. Starting in 2002, conservation equivalency was implemented, and has been used as the preferred management system each year since (Table 5). Under conservation equivalency, individual states or multi-state regions set measures that collectively are designed to constrain harvest to the coastwide RHL. Federal regulations are waived and anglers are subject to the summer flounder regulations of the state in which they land. State level conservation equivalency was adopted each year from 2002 through 2013, with each state implementing different sets of management measures. Each year from 2014 through 2018, the Board has approved the use of regional conservation equivalency, where the combination of regional measures is expected to constrain the coastwide harvest to the RHL.

In December 2017, the Council and Board adopted regional conservation equivalency for the summer flounder recreational fishery in 2018. Region-specific possession limits in 2018 range from 2-6 fish with size limits ranging from 15.0-19.0 inches, with various seasons (Table 6).

Under conservation equivalency, the Council and Board must adopt two associated sets of measures: the non-preferred coastwide measures, and the precautionary default measures. The non-preferred coastwide measures are a set of measures that would be expected to constrain harvest to the RHL if implemented on a coastwide basis. The combination of state or regional measures under conservation equivalency is designed to be "equivalent" to this set of non-preferred coastwide measures in terms of coastwide harvest. These coastwide measures are included in the federal regulations, but waived in favor of state- or region-specific measures. The non-preferred coastwide measures adopted in 2018 include a 4-fish possession limit, a 19-inch total length (TL) minimum size, and an open season from May 15-September 15. These non-preferred coastwide measures are only waived for the duration of the applicable fishing year; thus, the non-preferred measures described above took effect in federal waters and for federal party/charter permit holders starting on January 1, 2019.

The precautionary default measures would be implemented in any state or region that failed to develop adequate measures to constrain or reduce landings as required by the conservation equivalency guidelines. The precautionary default measures in 2018 include a 2-fish possession limit with a 20-inch TL minimum fish size and an open season from July 1-August 31.

Table 5: Summary of federal management measures for the summer flounder recreational fishery, 1993-2019 (staff recommended).

Measure	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ABC (m lb)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Recreational ACL (land+disc; m lb)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RHL (m lb)	8.38	10.67	7.76	7.41	7.41	7.41	7.41	7.41	7.16	9.72	9.28	11.21	11.98	9.29
Harvest - OLD MRIP (m lb)	8.83	9.33	5.42	9.82	11.87	12.48	8.37	16.47	11.64	8.01	11.64	11.02	10.92	10.50
% Over/Under RHL(Old MRIP)	+5%	-13%	-30%	+33%	+60%	+68%	+13%	+122%	+63%	-18%	+25%	-2%	-9%	+13%
Harvest - NEW MRIP	13.73	14.29	9.02	15.02	18.52	22.86	16.70	27.03	18.56	16.29	21.49	21.20	18.55	18.63
Possession Limit	6	8	6/8	10	8	8	8	8	3	[a]	[a]	[a]	[a]	[a]
Size Limit (TL in)	14	14	14	14	14.5	15	15	15.5	15.5	[a]	[a]	[a]	[a]	[a]
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	[a]	[a]	[a]	[a]	[a]

Measure	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019[d]
ABC (m lb)	-	-	21.50	25.50	33.95	25.58	22.34	21.94	22.57	16.26	11.30	13.23	23.63
Recreational ACL (land+disc; m lb)	-	-	-	-	-	11.58	10.23	9.07	9.44	6.83	4.72	5.53	10.89
RHL (m lb) - landings only	6.68	6.22	7.16	8.59	11.58	8.49	7.63	7.01	7.38	5.42	3.77	4.42	7.21
Harvest - OLD MRIP (m lb)	9.34	8.15	6.03	5.11	5.96	6.49	7.36	7.39	4.72	6.18	3.19	3.29[c]	-
% Over/Under RHL(Old MRIP)	+40%	+31%	-16%	-41%	-49%	-24%	-4%	+5%	-36%	+14%	-15%	-	-
Harvest - NEW MRIP	13.89	12.34	11.66	11.34	13.48	16.13	19.41	16.24	11.83	13.24	10.06	7.16	-
Possession Limit	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[b]	[b]	[b]	[b]	[b]	-
Size Limit (TL in)	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[b]	[b]	[b]	[b]	[b]	-
Open Season	[a]	[a]	[a]	[a]	[a]	[a]	[a]	[b]	[b]	[b]	[b]	[b]	-

[a] State-specific conservation equivalency measures. [b] Region-specific conservation equivalency measures. [c] Projected. [d] Staff recommendation, subject to change based on the discussions of the SSC and MC.

Table 6: Summer flounder recreational management measures and landings (in thousands of fish and thousands of pounds; 2018 projected) by state and region, 2017 and 2018. Pre-and post-calibration MRIP estimates are shown with pre-calibration estimates in italics/parenthesis.

		2017					2018				
Region	**State**	**Min. Size (inches)**	**Poss. Limit**	**Open Season**	**Landings, thous. fish**	**Landings thous. lb**	**Min. Size (inches)**	**Poss. Limit**	**Open Season**	**Proj. Landings, thous. fish**	**Proj. Landings thous. lb**
1	**MA**	17	4 fish	May 22-Sept. 23	*(27)* 65	*(78)* 172	17	5 fish	May 23-Oct. 9	*(26)* 65	*(57)* 140
2	**RI**	19	4 fish	May 1-Dec. 31	*(63)* 156	*(230)* 599	19	6 fish	May 1-Dec. 31	*(80)* 166	*(285)* 588
3	**CT**	19	3 fish	May 17-Sept. 21	*(88)* 121	*(299)* 403	19	4 fish	May 4 - Sept. 30	*(99)* 162	*(357)* 586
		17 (41 designated shore sites)					17 (45 designated shore sites)				
	NY	19			*(222)* 1,186	*(750)* 4,214	19			*(259)* 561	*(980)* 2,091
4	**NJ**	18	3 fish	May 25-Sept. 5	*(451)* 1,200	*(1,371)* 3,571	18	3 fish	May 25-Sept. 22	*(424)* 971	*(1,287)* 3,007
		16 (1 shore site)	2 fish				16 (1 shore site)	2 fish			
		17 (NJ Delaware Bay)	3 fish				17 (NJ Delaware Bay)	3 fish			
5	**DE**	17	4 fish	Jan. 1- Dec. 31	*(33)* 100	*(88)* 259	16.5	4 fish	Jan. 1-Dec. 31	*(35)* 84	*(88)* 200
	MD				*(26)* 57	*(78)* 171				*(28)* 55	*(70)* 139
	PRFC				--	--				--	--
	VA				*(92)* 188	*(253)* 528				*(50)* 141	*(129)* 360
6	**NC**	15	4 fish	Jan. 1- Dec. 31	*(26)* 91	*(40)* 147	15	4 fish	Jan. 1-Dec. 31	*(20)* 53	*(32)* 86

Accountability Measures

The Council's recreational accountability measures (AMs) were modified in 2013 to remove in-season closure authority for the summer flounder recreational fishery previously held by the National Marine Fisheries Service (NMFS) Regional Administrator. Additionally, in the event of a recreational ACL overage, recreational AMs no longer necessarily include a direct pound-for-pound payback of the overage amount in a subsequent fishing year. Instead, AMs are tied to stock status, and though poundage paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below.

The recreational AMs are as follows: the 3-year recreational sector ACL is evaluated against a 3-year moving average of total catch. Both landings and dead discards are evaluated in determining if the 3-year average recreational sector ACL has been exceeded. If the recreational ACL is exceeded, the appropriate AM will be determined based on the following criteria:

1. If the stock is overfished ($B < \frac{1}{2} B_{MSY}$), under a rebuilding plan, or the stock status is unknown: The exact amount, in pounds, by which the most recent year's recreational ACL has been exceeded, will be deducted in the following fishing year, or as soon as possible once catch data are available.
2. If biomass is above the threshold, but below the target ($\frac{1}{2} B_{MSY} < B < B_{MSY}$), and the stock is not under a rebuilding plan:
    - If only the recreational ACL has been exceeded, then adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.
    - If the Acceptable Biological Catch (ABC = recreational ACL + commercial ACL) is exceeded in addition to the recreational ACL, then a single year deduction will be made as a payback, scaled based on stock biomass. The calculation for the payback amount in this case is: (overage amount) * $(B_{msy}-B)/\frac{1}{2} B_{msy}$.
3. If biomass is above the target ($B > B_{MSY}$): Adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measures and the conditions that precipitated the overage.

AMs for the 2019 recreational summer flounder fishery are evaluated by comparing the average 2015-2017 catch to the 2015-2017 average ACL. The post-calibration MRIP data released in July for 2015-2017 cannot be compared to the 2015-2017 average ACL given that these ACLs were set based on an assessment that used pre-calibration MRIP data. Pre-calibration MRIP data for 2015-2017 indicate that average catch (5.97 million pounds) is below the average 2015-2017 ACL (7.00 million pounds), meaning that no recreational AM has been triggered for 2019.

2019 Staff Recommendation

The projected 2018 harvest for summer flounder in terms of the revised MRIP methodology is 7.20 million pounds. This closely corresponds with the staff-recommended RHL for 2019 of 7.21 million pounds. As previously noted, the recreational measures may need to be crafted to fit a different RHL depending on the catch and landings limit recommendations of the SSC and MC (e.g., if an ABC averaging approach is used instead of variable ABCs, or some other modification to the projections or risk policy application is adopted). However, if the RHL remains at or close to 7.21 million pounds, staff recommend *status quo* recreational measures for 2019. This includes the use of regional conservation equivalency and state measures as specified in Table 6. In addition, this includes a set of non-preferred coastwide measures consisting of a 19-inch total length (TL) minimum size, a 4-fish possession limit, and an open season from May 15-September 15, 2019 and precautionary default measures of a 20-inch minimum size, a 2-fish possession limit, and a season of July 1-August 31, 2019.

The timing of the response to the benchmark assessment has been delayed by the recent lapse in appropriations for the federal government, meaning the timing of recreational measures implementation at the federal level will likely be delayed until the recreational season is already underway in most states. Given this timing, some states may have difficulty making mid-season modifications to management measures, depending on state processes for regulation changes. If conservation equivalency is selected as the preferred approach, the final implementation of this strategy (and the waiving of federal waters measures) is highly dependent on when NMFS receives communication from the Commission regarding the equivalency of state waters measures. More substantial or complex modifications to management measures at the state level may require more time to develop and approve.

Under staff recommended RHLs, a gradual increase in the harvest limit would be implemented in each year from 2019-2021 (Table 7). Assuming harvest is constrained to the RHL in each year, this may allow for better planning for possible liberalizations in 2020 and 2021. Given that 2019 is a transition year in terms of adapting to new assessment results and the use of revised MRIP estimates, maintaining *status quo* measures, which are expected to result in the same level of harvest as the staff-recommended RHL, will allow for time to develop strategies for adjustments at the state level in 2020 and 2021 if possible.

Because an averaging approach may be preferred by the Council and Board, the MC should also discuss if and how measures should be adjusted under an 8.02 million lb RHL (Table 7; or the relevant RHL from this strategy resulting from SSC and MC catch limit recommendations). Given the factors described above, in particular the timing issue, staff recommend *status quo* 2019 measures under this scenario as well.

The MC should continue the development and incorporation of improved analytical tools for developing recreational measures, including those associated with a Council contracted project to evaluate F-based management strategies for the summer flounder fishery. While this project is not yet complete, the MC noted at their November 2018 meeting that the application of tools from this project could be tested in 2019 for potential application in developing 2020 recreational measures.

Table 7: Staff-recommended recreational ACLs and RHLs for 2019-2021 with comparison to current interim limits, and the alternative limits with an ABC-averaging approach.[a]

	Interim	Staff-Recommended (based on variable 2019-2021 ABCs)			Alternative (based on averaged 2019-2021 ABCs)[b]		
	2019 (current)	2019 (revised)	2020	2021	2019 (revised)	2020	2021
Recreational ACL	6.22	10.89	12.08	13.47	12.13	12.17	12.16
RHL	5.15	7.21	7.92	8.85	8.02	7.95	7.98

[a] See staff quota memo dated February 11, 2019 at http://www.mafmc.org/council-events/2019/ssc-meeting-february-2019.

[b] This alternative approach with averaged ABCs is provided for the Council and Board's consideration. Under this method, the ABCs are constant from 2019-2021 but the projections of discards vs. landings differ slightly in each year, resulting in slightly varying sector-specific ACLs and RHLs in each year. The MC could consider whether this variation should be smoothed if the Council and Board adopted averaged ABCs.

Supplemental Comparison of Pre- and Post-Calibration MRIP Data

This section provides additional comparison of the differences in pre- and post-calibration time series of recreational harvest and catch, including the ratio of new to old estimates over time, and changes by state, mode, and area. All calibration comparisons include calibration for both intercept methodology changes and effort survey changes.

Overall Differences

Over the time series 1981-2017, the ratio of revised MRIP harvest estimates to pre-calibration harvest estimates (in pounds) varies from 1.30 (1982) to 3.16 (2017), with a time series average of 1.84 and a 10-year average (2008-2017) of 2.31 (Figure 1; Table 8). In general, the ratio of new:old estimates increases over time, especially since 2007 (Figure 1). Trends are similar for harvest in numbers of fish. Changes between pre- and post-calibration estimates of catch are generally greater than for harvest, especially at the end of the time series (Figure 2; Table 8).

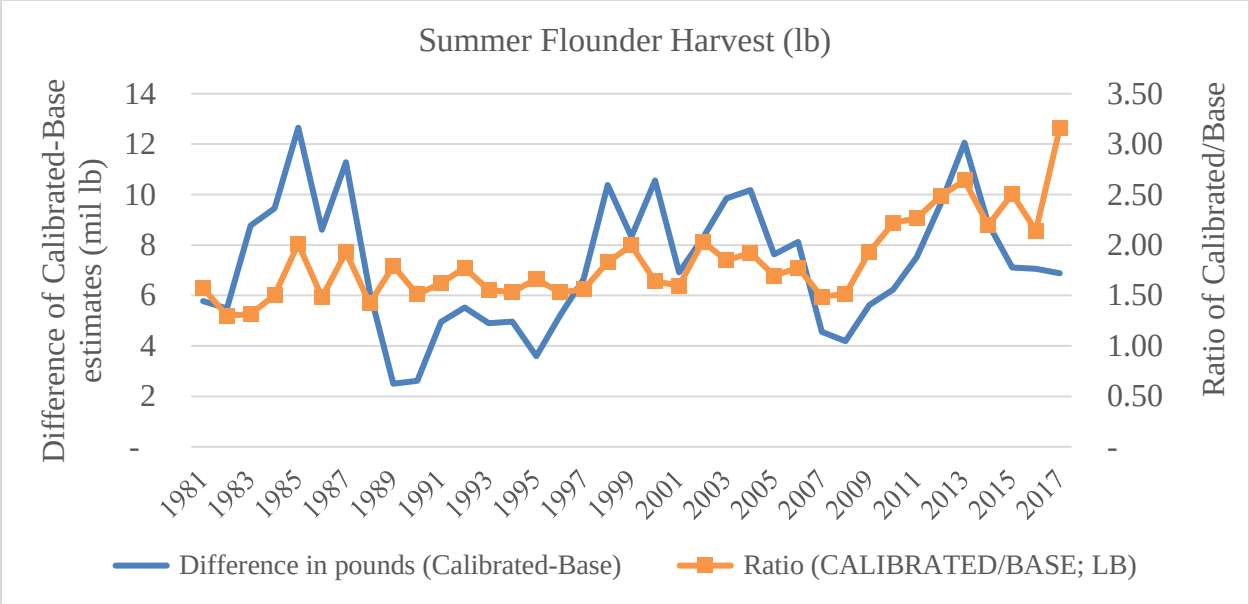

Figure 1: Difference in pounds and ratio between post-calibrated and pre-calibrated estimates of recreational harvest for summer flounder in pounds, 1981-2017, ME-NC. Calibrations include effects of both intercept survey methodology change and effort survey change. Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018.

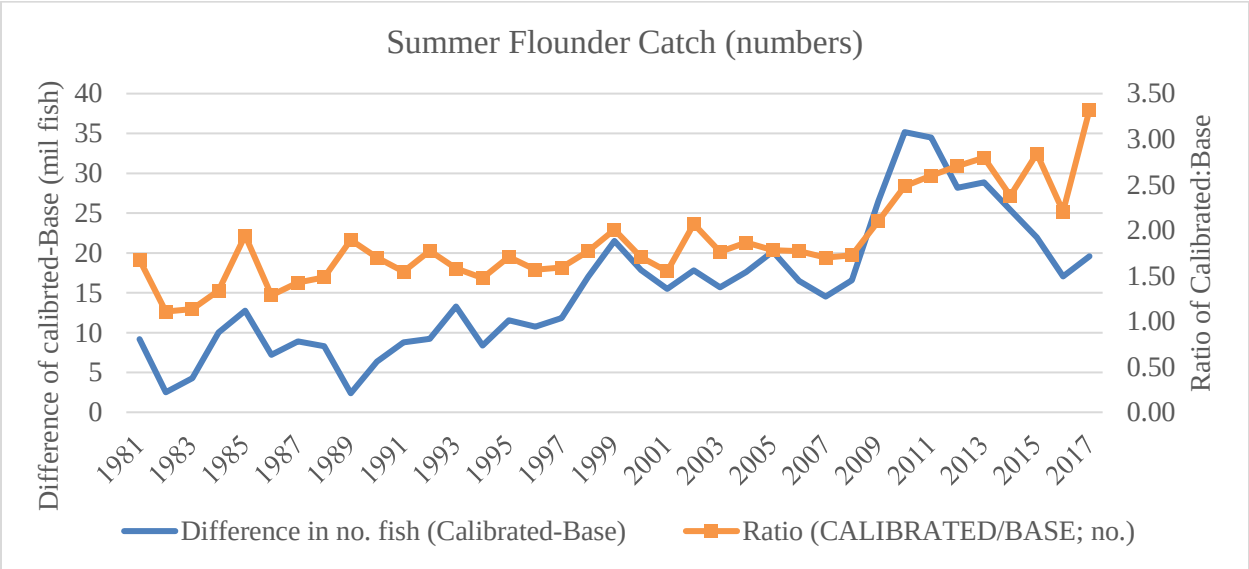

Figure 2: Difference in number of fish and ratio between post-calibrated and pre-calibrated estimates of recreational catch (kept harvest, dead discards, and live discards) for summer flounder, 1981-2017, ME-NC. Calibrations include effects of both intercept survey methodology change and effort survey change. Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018.

Table 8: Ratios of post-calibration to pre-calibration estimates for harvest (pounds and numbers) and catch of summer flounder, ME-NC.

	Harvest (lb)	Harvest (numbers)	Catch (numbers)
1981-2017 average ratio new:old estimates	1.84	1.82	1.87
2008-2017 average ratio new:old estimates	2.31	2.33	2.52
Highest ratio new:old estimates	3.16 (2017)	3.08 (2017)	3.32 (2017)
Lowest ratio new:old estimates	1.30 (1982)	1.23 (1983)	1.11 (1982)

By State

The changes in summer flounder MRIP harvest estimates vary somewhat by state (Figure 3). From 2008-2017, most states averaged about 2.4 times higher harvest estimates (in numbers of fish) under the post-calibration data; however, North Carolina saw higher ratios (3.0 times higher on average over these years), and Rhode Island and Connecticut saw lower ratios (1.9 times higher on average).

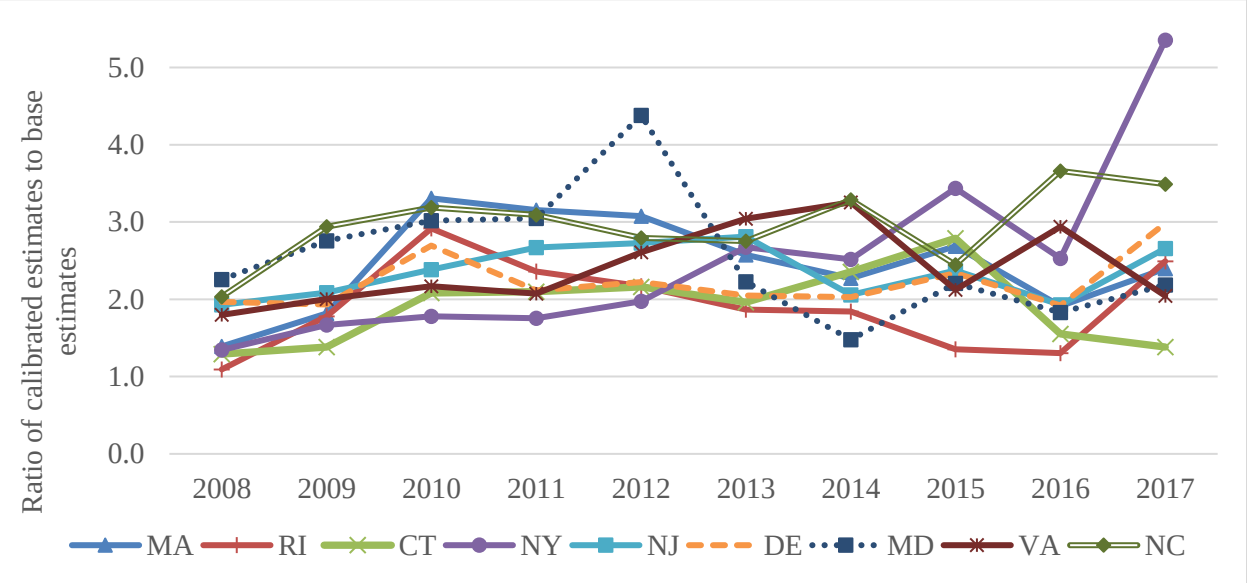

Figure 3: Ratio of post-calibrated to pre-calibrated MRIP harvest estimates (in number of fish) for summer flounder by year and state, 2008-2017, MA-NC. Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018.

By Mode

By fishing mode, shore estimates increased much more than private angler or party/charter estimates. Party/charter estimates were only impacted by the intercept methodology change (not by changes in the effort survey); therefore, the changes in this mode are relatively minor. In contrast, shore mode post-calibration estimates averaged 4.6 times higher for summer flounder from 2003-2017 and were 8.1 times higher in 2017 (Figure 4).

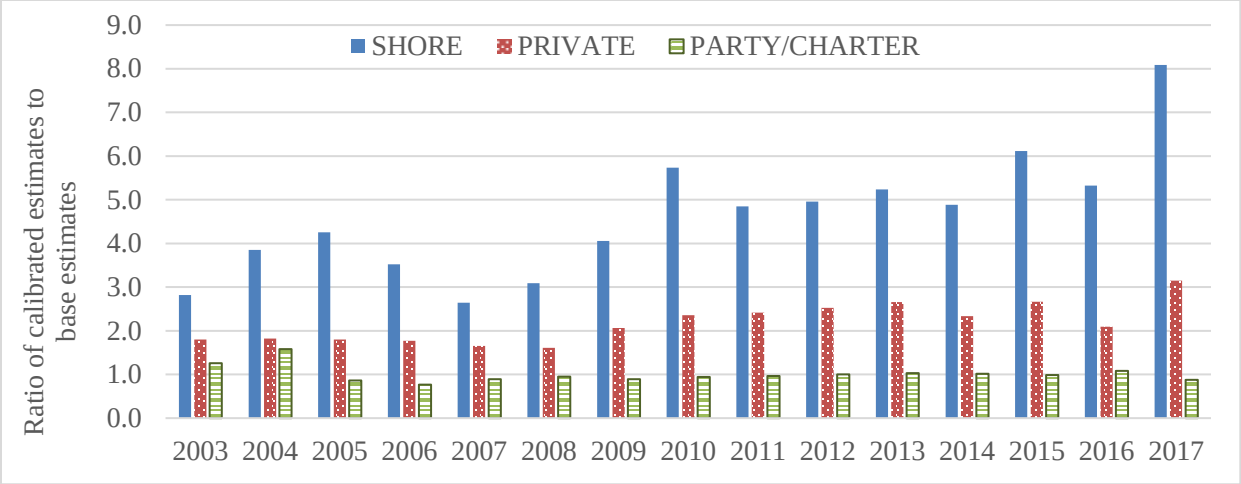

Figure 4: Ratio of post-calibrated to pre-calibrated MRIP harvest estimates (in number of fish) for summer flounder by year and fishing mode, 2003-2017, ME-NC. Calibrations include effects of both intercept survey methodology change and effort survey change; party/charter estimates are unaffected by the effort survey change. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018.

As a percentage of the coastwide harvest, the calibration decreased the percentage of harvest attributable to the party/charter sector from 2008-2017 (from 9.9% to 4.2%) and increased the percentage of harvest from shore mode (from 3.7% to 8.2%; Figure 5).

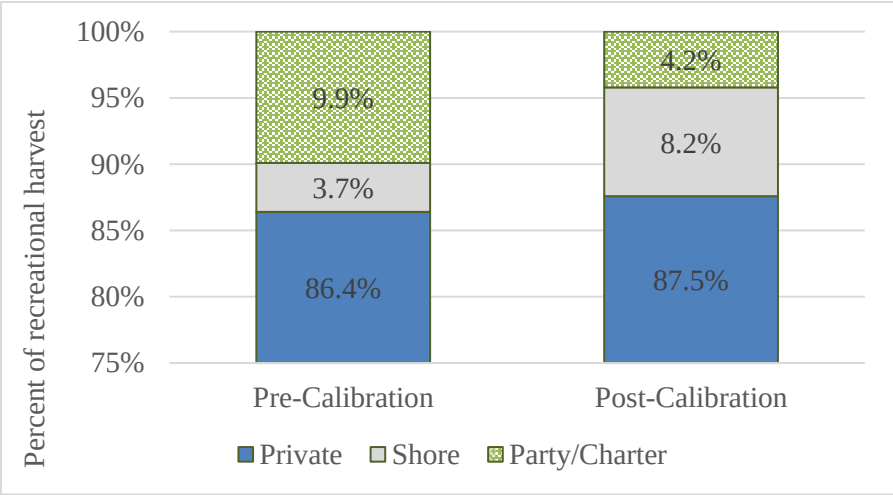

Figure 5: Comparison of pre- and post-calibration percent of summer flounder recreational harvest (in number of fish) by mode, 2008-2017, ME-NC.

By Area

Pre- and post-calibration MRIP data indicate only very minor differences in harvest by area (state vs. federal waters) for 2003-2017, especially since 2008 (Figure 6). On average since 2008, there is a 0% difference between pre- and post-calibration estimates in the proportion of harvest estimated from state waters. However, the past 5 years (2013-2017) have indicated a decrease in the percent of landings from state waters compared to the years prior, for both pre- and post-calibration estimates.

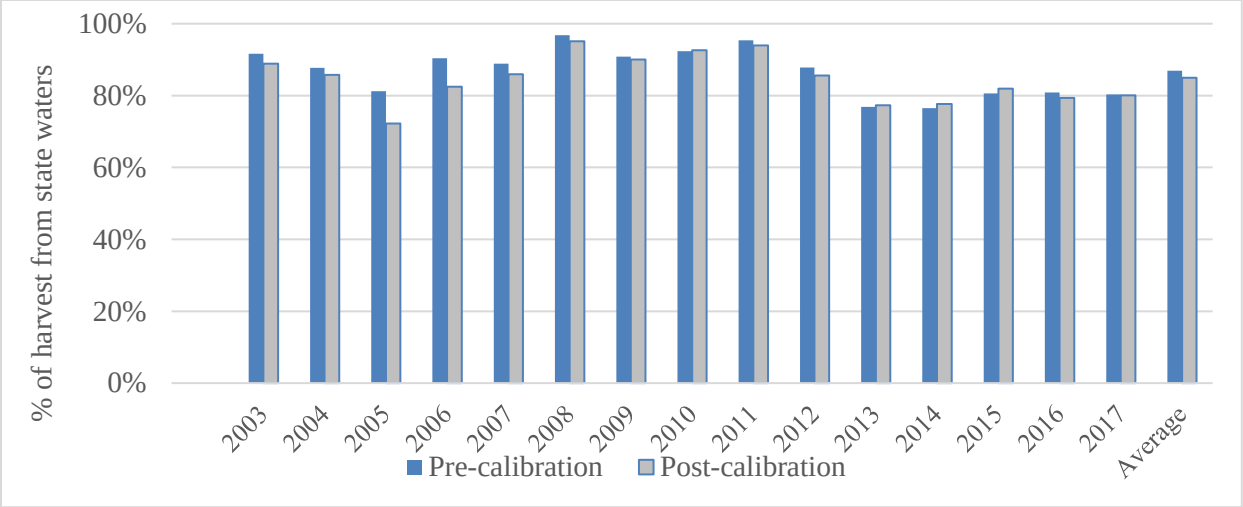

Figure 6: Percent of recreational harvest (in number of fish) estimated to originate from state waters, 2003-2017, ME-NC. Calibration includes effects of both intercept survey methodology change and effort survey change. Area information is self-reported by anglers. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 22, 2018.

Directed Trips

Table 9 provides estimates of the number of trips where summer flounder was reported as the primary target from Maine through North Carolina, and the estimated percentage of these directed summer flounder trips relative to directed trips from all species Maine through North Carolina. Both pre- and post-calibrated estimates are provided for comparison. While both pre-calibration and post-calibration data show that summer flounder trips continue to be a substantial component of total angler trips, the percentage of directed summer flounder trips relative to trips for all species appears to have decreased slightly with the revised MRIP estimates, to approximately 10-13% from 2006-2017 (Table 9).

Table 9: Number of summer flounder directed recreational fishing trips, and percentage of total directed trips, Maine through North Carolina, 2006 to 2017.

Year	Pre-Calibration		Post-Calibration	
	Number of Summer Flounder Directed Trips (millions)[a]	Percentage of Directed Trips Relative to Total Trips[a,b]	Number of Summer Flounder Directed Trips (millions)[c]	Percentage of Directed Trips Relative to Total Trips[c,d]
2006	4.99	13.6%	9.61	10.5%
2007	5.49	14.5%	9.85	10.9%
2008	4.93	13.4%	8.84	9.5%
2009	4.60	15.6%	10.42	11.0%
2010	4.45	15.1%	11.92	12.0%
2011	4.50	16.8%	13.03	13.6%
2012	4.24	16.4%	11.89	12.6%
2013	3.73	14.6%	11.23	12.6%
2014	4.06	15.6%	11.49	12.9%
2015	3.39	15.4%	10.61	12.5%
2016	3.61	14.2%	10.19	11.7%
2017	Not available	Not available	8.62	10.1%

[a] Pre-calibration estimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 23, 2017. 2017 pre-calibrated estimate was not available at time of writing.

[b] Source of total trips for all species combined, pre-calibration: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 23, 2017. 2017 pre-calibrated estimate was not available at time of writing.

[c] Post-calibration estimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 24, 2018.

[d] Source of total trips for all species combined, post-calibration: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 24, 2018.

2/13/2019

Chris Moore
Ph.D., Executive Director
Mid-Atlantic Fishery Management Council

Dear Chris,

Being an advisor to the Mid-Atlantic Fishery Management Council, and my deep passion for our fisheries, I feel it is my responsibility to let the council know of my fishing experiences for 2018 summer flounder season. My personal catch this year, along with my fellow fisherman, has been very disappointing. I don't remember a year that had so few amount of both short and keeper fluke being caught all around Long Island waters. From Montauk, Long Island Sound and central south shore, the lowest catch that I can remember in years, and I have been fishing these waters for over 45 years. It was very difficult to catch a daily limit of 4 fish at 19". Also, very few fluke under 19" were caught in comparison to past years. This lack of recreational fish numbers this year should raise concerns.

I think the recreational catch limit should remain at 4 fish per person, same length of season, May 4 to Sept 30, but a decrease in size limit to 18". Also, by decreasing the size limit, it would cut down on fish mortality from catch and release. Maybe the council should consider a slot limit for fluke. Leaving the big females to repopulate the stock, adding the genes for big healthy fish, more eggs and offspring.

I am advising that the fluke regulations be reassessed and commercial take should be cut back. The recreational sector has been cut back enough over the years, not only with lower quotas, but increased size limits as well. Summer flounder is one of the most important and popular recreational target species in our waters. It is a big part of the charter and party boat business. According to data, summer flounder are overfished and the council needs to step up and protect this very important species for all interests. The uncertainty in fluke biomass is a big issue.

I believe giving these fish time to rebuild with less commercial dragging pressure and less dead discarded overage dumped over board. Preventing waste of this valuable resource is mandatory. It will have a positive effect to the overall fishing community to restore these fish, achieving optimal yield on an ongoing basis.

Hopefully, the council will take my observations and recommendations into consideration on a new outlook for summer flounder regulations for the future. We must act now.

Thank you.

Best,

Mark Krause

An Advisor to the Mid-Atlantic Fishery Management Council
Atlantic Mackerel, Squid and Butterfish