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: July 27, 2017

To: Council

From: Kiley Dancy, Staff

Subject: Review of Summer Flounder Specifications for 2018

The materials listed below are provided for the Council and Board's review of previously implemented 2018 summer flounder specifications.

A summary of the July 28 Advisory Panel webinar, once finalized, will be posted to the Council's website as a supplemental document for the August briefing materials.

Please note that the SSC meeting report is behind the Committee reports tab (Tab 11).

1) Monitoring Committee recommendations for summer flounder
2) July 2017 Scientific and Statistical Committee meeting report *(behind Tab 11)*
3) Staff memo on 2018 summer flounder specifications
4) Summer Flounder Data Update for 2017
5) Advisory Panel Fishery Performance Report for summer flounder and additional written comments received through July 26, 2017
6) 2017 Summer Flounder Fishery Information Document

Summer Flounder, Scup, and Black Sea Bass Monitoring
Committee Webinar Meeting Summary - Summer Flounder
July 24, 2017

Monitoring Committee Attendees: Tiffany Vidal (MA DMF), Greg Wojcik (CT DEEP), John Maniscalco (NY DEC), Peter Clarke (NJ F&W), Rich Wong (DE DFW), Steve Doctor (MD DNR), Joe Cimino (VMRC), Todd Daniel VanMiddlesworth (NC DMF), Kiley Dancy (MAFMC staff), Kirby Rootes-Murdy (ASMFC staff), John Carmichael (SAFMC staff), Mark Terceiro (NMFS NEFSC)

Additional Attendees: Morgan Brunbauer (NY DEC), Katie Almeida (Town Dock), Mike Ruccio (NMFS GARFO), Jim (no last name provided)

General Comments

The Monitoring Committee (MC) does not currently have any formal control rules for the recommendation of Annual Catch Targets (ACTs). The MC recognizes the need to develop ACT control rules or guidelines for addressing management uncertainty in the future, which would be applicable to all three species.

Summer Flounder Comments and Recommendations

The MC agreed with the staff recommendation for no changes to the currently implemented Annual Catch Limits (ACLs) and ACTs for 2018 (Table 1), based on the belief that the system is working as intended with catch generally constrained to the Acceptable Biological Catch (ABC) and sector-specific ACLs. However, concerns were raised about the increased 2018 ACL/ACT given that overfishing is occurring, the stock is close to being overfished, and most of the coastwide indices show a decline in abundance. In addition, non-compliance in the New Jersey recreational fishery and the potential implications of the revised MRIP estimates are important sources of uncertainty for the performance of this fishery.

For the commercial fishery, the monitoring and fishery closure system is timely and has typically been successful in holding the landings close to the quota. States should continue to be diligent in managing their state quotas. The MC discussed whether commercial discards currently present management uncertainty issues that would warrant reconsideration of the commercial ACT. While the commercial discard estimates in the assessment are fairly precise, there are some uncertainties regarding whether fishing behavior differs during observed and unobserved trips, as well as the self-reported nature of Vessel Trip Report discards. The MC does not believe commercial discards represent a substantial management uncertainty concern at this time, but will continue to monitor commercial discards and evaluate fishery performance relative to the commercial ACL.

The MC also recommended maintaining no reduction from the recreational ACL to the recreational ACT for 2018. There was some discussion of recommending a reduced recreational ACT for 2018, given the variation in recreational landings over the past three years (2014-2016) under similar management measures, and additional elements of recreational management uncertainty. However, the MC noted that Accountability Measures (AMs) have not been triggered for the

recreational summer flounder fishery, and in addition, that recreational management uncertainty is best considered during the recreational measures setting process in the fall due to directional uncertainty with various management uncertainty elements.

The MC and Technical Committee (TC) will need to carefully consider development of recreational measures for 2018, given the low recreational harvest limit and the lack of in-season closure authority for the recreational fishery. The MC and TC continue to work toward improved approaches to developing recreational measures that account for the uncertainty inherent in the recreational data. In coordination with the Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission Management Board, the MC and TC plan to continue developing a proposed policy of less reactionary recreational measures adjustments, providing for stability in the measures from year to year if projected harvest is within a to-be-determined measure of uncertainty from the following year's harvest limit. The MC will consider management uncertainty when recommending recreational measures this fall. For 2018 recreational measures, **the MC recommends that any potential liberalizations available not be taken.** The MC is also concerned with revisions to the Marine Recreational Information Program (MRIP) time series and will need to carefully consider the management implications associated with those changes once more information is available about potential management impacts.

The MC agreed with the staff recommendation that no changes be made to the commercial minimum fish size (14-inch total length), gear requirements, and exemption programs.

Table 1: Currently implemented 2017-2018 summer flounder catch and landings limits. The SSC and Monitoring Committee recommend no changes to the implemented measures for 2018. Numbers may not add precisely due to unit conversions and rounding.

Management Measure	***2017 (current)***		**2018**		**Basis for 2017-2018 Measures**
	mil lb.	*mt*	mil lb.	mt	
OFL	*16.76*	*7,600*	18.69	8,476	Stock assessment projections
ABC	*11.30*	*5,125*	13.23	5,999	Stock assessment projections/SSC recommendation
ABC Landings Portion	*9.43*	*4,278*	11.05	5,010	Stock assessment projections
ABC Discards Portion	*1.87*	*847*	2.18	989	Stock assessment projections
Commercial ACL	*6.57*	*2,982*	7.70	3,491	60% of ABC landings portion (per FMP allocation) + 49% of ABC discards portion
Commercial ACT	*6.57*	*2,982*	7.70	3,491	Monitoring Committee recommendation: no deduction from ACL for management uncertainty
Projected Comm. Discards	*0.92*	*415*	1.07	485	49% of ABC discards portion, based on 2013-2015 average % discards by sector
Commercial Quota	*5.66*	*2,567*	6.63	3,006	Commercial ACT, less projected commercial discards
Recreational ACL	*4.72*	*2,143*	5.53	2,508	40% of ABC landings portion (per FMP allocation) + 51% of ABC discards portion
Recreational ACT	*4.72*	*2,143*	5.53	2,508	Monitoring Committee rec.; no deduction from ACL for management uncertainty
Projected Rec. Discards	*0.95*	*432*	1.11	504	51% of ABC discards portion, based on 2013-2015 average % discards by sector
Recreational Harvest Limit	*3.77*	*1,711*	4.42	2,004	Recreational ACT, less projected recreational discards

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

MEMORANDUM

DATE: July 5, 2017

TO: Chris Moore, Executive Director

FROM: Kiley Dancy, Staff

SUBJECT: Review of Summer Flounder Management Measures for 2018

Executive Summary

In 2016, two-year specifications were implemented for summer flounder, revising the previously established catch and landings limits for 2017 and 2018. The measures currently implemented for 2018 include an Acceptable Biological Catch (ABC) of 13.23 million lb or 5,999 mt. This ABC and the corresponding sector-specific catch and landings limits may remain unchanged if the Scientific and Statistical Committee (SSC), Council, and Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass Board (Board) determine that no changes are warranted. Alternatively, after reviewing the July 2018 data update for summer flounder, the SSC may determine that a revised ABC is warranted, or request additional information (such as an assessment update) to consider revisions to the 2018 ABC. Similarly, the Monitoring Committee will review recent fishery performance and make a recommendation to the Council and Board regarding any potential modifications to the implemented 2018 commercial and recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs) as well as the set of commercial management measures that can be modified through specifications.

The most recent stock assessment update was completed in July 2016. This update indicated that the summer flounder stock was not overfished, but overfishing was occurring in 2015. The model-estimated spawning stock biomass (SSB) was estimated to be 79.90 million lb (36,240 mt) in 2015, 58% of the spawning stock biomass at maximum sustainable yield, SSB_{MSY} = 137.56 million lb (62,394 mt). The fishing mortality rate (F) in 2015 was 0.390, 26% above the fishing mortality threshold reference point $F_{MSYPROXY} = F_{35\%} = 0.309$.

In July 2016, the SSC recommended two-year specifications based on biomass projections resulting from the 2016 assessment update. The resulting 2017-2018 SSC-recommended catch and landings limits, which were adopted by the Council and Board in August 2016 and subsequently implemented by the National Marine Fisheries Service (NMFS), are shown in Table 1.

Table 1: Currently implemented catch and landings limits for summer flounder for 2017-2018.

Management Measure	2017		2018		Basis
	mil lb.	mt	mil lb.	mt	
OFL	16.76	7,600	18.24	8,272	Stock assessment projections
ABC	11.30	5,125	13.23	5,999	Stock assessment projections/SSC recommendation
ABC Landings Portion	9.43	4,278	11.05	5,010	Stock assessment projections
ABC Discards Portion	1.87	847	2.18	989	Stock assessment projections
Commercial ACL	6.57	2,982	7.70	3,491	60% of ABC landings portion (per FMP allocation) + 49% of ABC discards portion
Commercial ACT	6.57	2,982	7.70	3,491	Monitoring Committee recommendation: no deduction from ACL for management uncertainty
Projected Commercial Discards	0.92	415	1.07	485	49% of ABC discards portion, based on 2013-2015 average % discards by sector
Commercial Quota	5.66	2,567	6.63	3,006	Commercial ACT, less projected commercial discards
Recreational ACL	4.72	2,143	5.53	2,508	40% of ABC landings portion (per FMP allocation) + 51% of ABC discards portion
Recreational ACT	4.72	2,143	5.53	2,508	Monitoring Committee recommendation; no deduction from ACL for management uncertainty
Projected Recreational Discards	0.95	432	1.11	504	51% of ABC discards portion, based on 2013-2015 average % discards by sector
Recreational Harvest Limit	3.77	1,711	4.42	2,004	Recreational ACT, less projected recreational discards

In June 2017, the Council received a data update for summer flounder[1], including updated catch and landings information as well as survey indices through 2016. No new stock projections or estimates of stock status are available. The data update indicates that there is little evidence to suggest a substantial change in stock status from the 2016 assessment update. Most state and federal survey indices of abundance, with the exception of Massachusetts, remain below their most recent peaks (generally 2009-2012). Many of the indices decreased slightly between 2015 and 2016. Recruitment indices in 2016 were highly variable.

Staff recommend maintaining the previously implemented specifications for 2018. A benchmark assessment for summer flounder is tentatively scheduled for the second half of 2018, pending the changes to the recreational time series of catch and effort, which are expected to be available for

[1] Posted at http://www.mafmc.org/council-events/2017/july-2017-ssc-meeting.

assessment use in 2018. In mid-2018, catch limits will need to be developed for 2019. These measures will likely be revised based on the results of the next benchmark assessment.

The Council and Commission's Monitoring and Technical Committees conducted a thorough review of current commercial management measures in 2015. No changes were adopted; however, Council and Board members indicated that additional exploration of some measures may be warranted, as described under "Other Management Measures" in this document. Additional data and analyses are needed to address the questions raised, and staff will continue to work with the Monitoring and Technical Committees on these issues. At this time, staff do not recommend any changes to the current measures, including the minimum fish size (14 inches total length), gear requirements, seasonal possession thresholds triggering gear requirements, and minimum mesh size exemption programs (small mesh exemption area and North Carolina flynet exemption).

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 achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committee established by the Fishery Management Plan (FMP) is responsible for developing recommendations for management measures designed to achieve the recommended catch limits. The SSC is responsible for recommending ABCs that address scientific uncertainty, while the Monitoring Committee recommends ACTs that address management uncertainty and management measures to constrain landings to the ACTs.

In 2016, the SSC revised their previously recommended 2017-2018 ABCs that were originally implemented as part of multi-year specifications for the 2016-2018 fishing years. The revised 2017-2018 measures were based on the 2016 stock assessment update and implemented by NMFS in late 2016.

Both the SSC and Monitoring Committee will review the measures currently implemented for 2018 and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the NMFS Greater Atlantic Regional Administrator, if changes are needed. 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 in August 2017 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 2018 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.[2]

[2] Available at: http://www.mafmc.org/council-events/2017/july-2017-ssc-meeting.

Recent Catch and Landings

Reported 2016 landings in the commercial fishery were approximately 7.81 million lb (3,542 mt), about 4% under the commercial quota of 8.12 million lb (3,685 mt). The 2017 commercial landings as of the week ending June 24, 2017, indicate that 62% of the 2017 coastwide commercial quota has been landed (Table 2).

Recreational landings in 2016 were 6.18 million (2,804 mt), about 14% above the recreational harvest limit (5.42 million lb or 2,457 mt).

Table 2: The 2017 state-by-state commercial quotas and the amount of summer flounder landed by commercial fishermen, in each state as of week ending June 24, 2017.

State	Cumulative Landings (lb)	Quota (lb)[a]	Percent of Quota (%)
ME	101	2,692	4
NH	0	26	0
MA	192,894	385,988	50
RI	621,167	887,542	70
CT	60,295	127,734	47
NY	247,941	432,764	57
NJ	473,082	946,512	50
DE	0		0
MD	40,936	115,398	35
VA	675,027	1,219,912	55
NC	1,178,860	1,539,693	77
Other	0		0
Totals	**3,490,303**	**5,658,261**	**62**

[a]Quotas adjusted for overages. Source: NMFS Weekly Quota Report for week ending June 24, 2017.

Stock Status and Biological Reference Points

The last peer-reviewed benchmark stock assessment was conducted in the summer of 2013 at the Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC 57).[3] The SAW/SARC 57 biological reference points include a fishing mortality threshold of $F_{MSY} = F_{35\%}$ (as the F_{MSY} proxy) = 0.309, and a biomass reference point of $SSB_{MSY} = SSB_{35\%}$ (as the SSB_{MSY} proxy) = 137.56 million lb = 62,394 mt. The minimum stock size threshold (1/2 SSB_{MSY}), is estimated to be 68.78 million lb (31,197 mt).

[3] 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 most recent stock assessment update was completed in July 2016, using data through 2015.[4] This assessment update uses the model from the 2013 benchmark stock assessment, which is an age-structured assessment model called ASAP.

Results from the 2016 assessment update indicate that the summer flounder stock was not overfished, but overfishing was occurring in 2015 relative to the biological reference points from the 2013 SAW/SARC 57. Fishing mortality on the fully selected age 4 fish ranged between 0.799 and 1.775 during 1982-1996 and then decreased from 0.871 in 1997 to 0.288 in 2007. Since 2007 the fishing mortality rate has increased and was 0.390 in 2015, 26% above the 2013 SAW 57 F_{MSY} proxy = $F_{35\%}$ = 0.309. The 90% confidence interval for F in 2015 was 0.292 to 0.490.

SSB was estimated to be 79.90 million lb (36,240 mt) in 2015, about 58% of SSB_{MSY} = 137.6 million lb (62,394 mt), and 16% above the 2013 SAW 57 ½ SSB_{MSY} proxy = ½ $SSB_{35\%}$ = 68.78 million lb (31,197 mt). A rebuilding plan would be triggered in the event that estimated biomass falls below the minimum stock size threshold. Figures showing the trends in F and SSB over time are provided in the 2017 Summer Flounder Fishery Information Document.

The 2016 assessment updates indicates that while catches in recent years have not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected spawning stock biomass has not been achieved. The assessment update shows a moderate internal model retrospective pattern with continued recent underestimation of F and overestimation of SSB. A historical retrospective analysis, comparing model estimates from the 1990-2015 assessments, likewise indicates the same trend since the 2011 assessment update. These results appear to be largely driven by poor recruitment from 2010-2015. The assessment continues to show a consistent recent retrospective pattern in recruitment averaging +22%. The update shows that recruitment of age 0 fish was below the time series average (41 million fish at age 0; 1982-2015) each year from 2010 through 2015. Recruitment of age 0 fish in 2015 was estimated at 23 million fish.

The June 2017 data update for summer flounder includes updated fishery independent survey indices of abundance through 2016. No new stock projections or estimates of stock status are available. The data update includes little evidence to suggest a substantial change in stock status from that indicated in the 2016 assessment update. Most state and federal survey indices of abundance, with the exception of Massachusetts, remain below their most recent peaks (generally 2009-2012). Many of the indices decreased slightly between 2015 and 2016. Recruitment indices in 2016 were highly variable.

Review of Prior SSC Recommendations

In July 2016, the SSC recommended, and the Council and Board adopted, revised two-year ABCs for summer flounder. These recommendations represented a revision to the SSC's previous recommendations for 2017-2018, based on a review of new stock status information and projections from the 2016 assessment update.

[4] Northeast Fisheries Science Center. 2015. Stock Assessment Update of Summer Flounder for 2015. US Dept Commer, Northeast Fish Sci Cent; 17 p.

Because the assessment model was unchanged from SAW/SARC 57, the SSC did not alter its categorization of the assessment as an assessment requiring an "SSC-modified OFL (overfishing limit) probability distribution," formerly referred to as a "level 3" assessment.[5] In this type of assessment, the SSC provides its own estimate of uncertainty in the distribution of the OFL. The SSC concluded that no new information was presented that would cause the SSC to deviate from using the previously applied OFL CV of 60%.[6]

For 2017, the OFL was determined to be 16.76 million lb (7,600 mt), based on an F_{MSY} proxy of F = 0.309 ($F_{35\%}$) and 2016 projected biomass. For 2018, assuming fishing at F_{MSY}, the OFL was determined to 17.52 million lb (7,946 mt).

In 2015, the Council requested the SSC provide multi-year ABC specifications that phased in its recommended ABCs over a three-year period (2016-2018); this was a deviation from the Council's risk policy that was intended to mitigate negative economic and social impacts of large cuts in the ABC. Under the SSC's 2015 recommendation, the intention was for the 2017 ABC to be 80% of the OFL. However, with the revised 2017 OFL derived from the 2016 update, the original ABC for 2017 (7,193 mt) would have been 95% of the revised OFL and represented a probability of overfishing (P*) of 46%.

The revised understanding of the stock status produced by the assessment update indicated reductions in the estimates of SSB, and increases in the estimates of annual F. In light of these trends, the SSC expressed the following concerns at their July 2016 meeting:

a) The retrospective patterns on SSB and F in the model are close to levels at which the NEFSC typically applies corrections in the assessment. If such corrections are applied the stock is closer to the overfished threshold and annual Fs would be substantially over the F_{MSY} reference point.
b) With the exception of 2007, the update assessment reinforces a consistent pattern of overfishing since 1981, albeit at a greatly reduced level in last 15 years.
c) An evaluation of the reliability of stock projections since 2008 indicated that projections of stock status have been consistently over-optimistic. A definitive understanding of the sources of the bias in projections lacking, but assuming that implemented F policies are actually achieved and the lack of accounting for all sources of catch may be contributing factors.
d) A downward trend is evident in the majority of stock indices, including recruitment, since 2011.

The SSC concluded that the patterns in the survey and recruitment indices indicated a longer-term decline in stock performance and required additional caution compared to the phased-in approach adopted in 2015. Accordingly, the SSC recommended against continuation of the phased-in approach, and recommended revised ABCs for 2017 and 2018 based on a return to its standard approach for implementing the Council's risk policy.

[5] Based on SSC and Council discussions in March/April 2015, the "level 3" assessment designation is now known as the "SSC-modified OFL probability distribution."

[6] This CV has been used for summer flounder since 2013, when the SSC noted that the 2013 summer flounder stock assessment was considerably more accurate than other assessments of Mid-Atlantic stocks and, therefore, use of the default CV=100% for stocks of this assessment level was likely inappropriate. The SSC adopted the 60% CV based on a presentation of the distribution of CVs in published simulation experiments in which the assessment model fully reflected the underlying population dynamics.

Assuming an OFL with a lognormal distribution and a 60% CV, and a stock status lower than BMSY, the Council's risk policy is to use a P*=0.239. This yielded an ABC for 2017 of 11.30 million lb, or 5,125 mt. For 2018, the standard procedure resulted in a P*=0.267 and an ABC of 13.23 million lb (5,999 mt).

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

- Retrospective patterns were evident in the assessment update that have substantial implications for the reliability of model projections and inferences regarding the status of the stock. The causes of the retrospective pattern are unknown, but might include changes in the following:
    1) Sources of mortality that are not fully accounted in the assessment. These could include:
        - Under-estimation of discards in both the commercial and recreational fisheries and lower estimates of mortality rates applied to the discards than are actually occurring; and
        - Under-reported landings.
    2) Natural mortality, which may be underestimated – but the presence of older male flounder in the population suggest this is unlikely.
    3) Availability or catchability of fish due to changes in stock distribution.
- Changes in life history are apparent in the population.
- Potential changes in availability of fish to some surveys and to the fishery as a result of changes in the distribution of the population.

Staff Recommendations for 2018 ABC

Staff recommend maintaining the previously implemented specifications for summer flounder for the 2018 fishing year, as described in Table 1, based on a 2018 ABC of 13.23 million lb (5,999 mt). The data update indicates little evidence to suggest that stock condition has changed substantially from what was indicated in the 2016 assessment update. A benchmark stock assessment for summer flounder is being prioritized as one of the first assessments completed upon availability of the revised Marine Recreational Information Program (MRIP) time series of recreational catch. As mentioned above, placeholder specifications will likely need to be developed in mid-2018 for the beginning of the 2019 fishing year, in order to have catch limits in place by January 1, 2019. Those catch limits could then be revised based on the benchmark assessment if completed as planned in the second half of 2018.

Other Management Measures

Recreational and Commercial Annual Catch Limits

As defined by the Omnibus ACLs and AMs Amendment (Amendment 15 to the Summer Flounder, Scup, and Black Sea Bass FMP), the ABC includes both landings and discards, and is equal to the sum of the commercial and recreational ACLs for summer flounder (Figure 1). 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 discards contribution from each fishing sector using a 3-year moving average percentage. When 2017-2018 specifications were revised in 2016, the most recent three-year period was 2013-2015, during which 51% of dead discards were attributable to the recreational fishery, and 49% to the commercial fishery on average (Table 1). According to the 2017 data update, these discard proportions are nearly the same over 2014-2016 (approximately 50% of discards attributable to each sector).

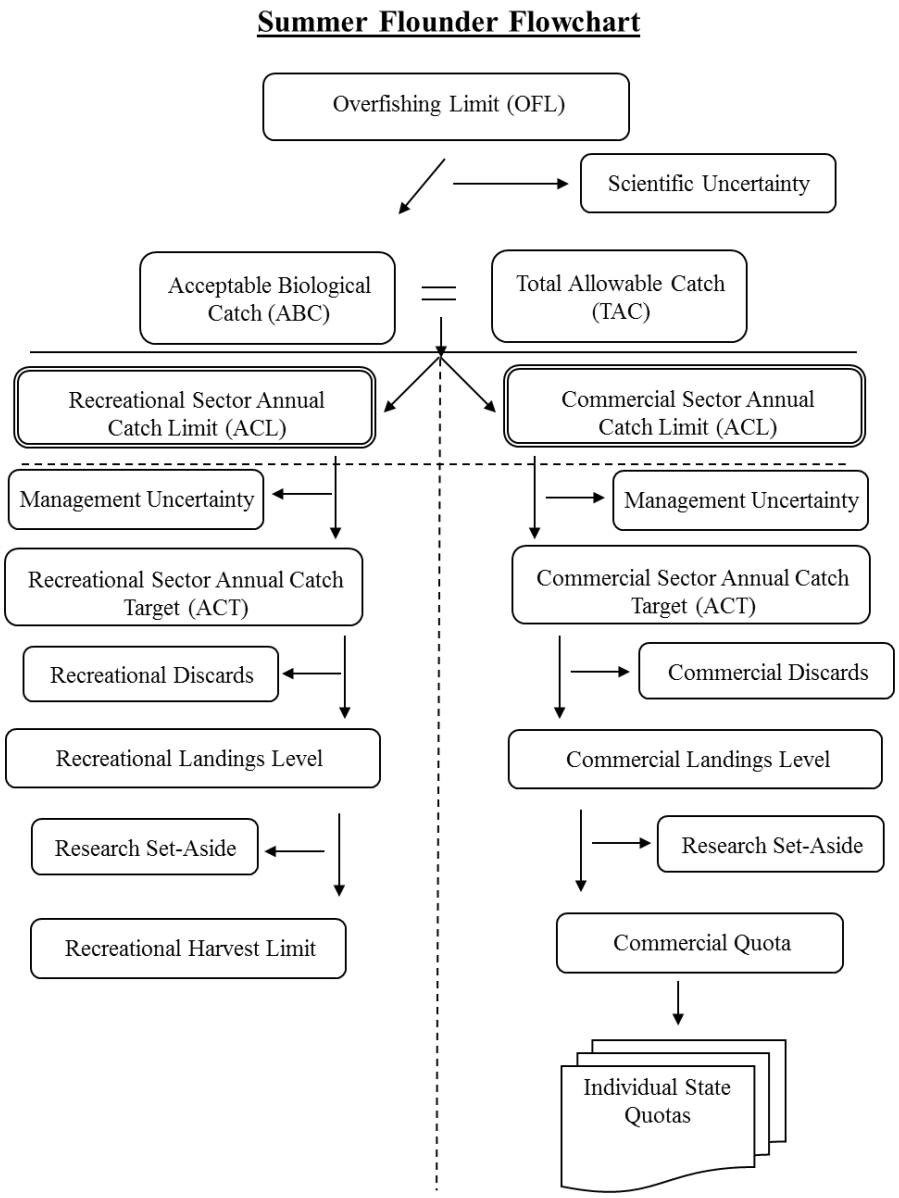

Figure 1: Flowchart for summer flounder catch and landings limits. Note: the RSA program was suspended in 2014.

Annual Catch Targets

The Summer Flounder Monitoring Committee is responsible for recommending Annual Catch Targets (ACTs), which are intended to account for management uncertainty, for the Council and Board's consideration. 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 should be described and provided to the Council. The relationships between the recreational and commercial ACTs and other catch components are given in Figure 1.

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 fluctuated fairly widely in relation to the recreational harvest limits for the past five years. Over the past three years (2014-2016), despite nearly constant recreational measures in all states, harvest varied substantially (Table 3). This illustrates the substantial uncertainty around predicting recreational harvest, which results in occasionally large underages and overages. Given recent substantial underages, staff believe a reduction in the recreational ACL to an ACT is not necessarily the appropriate management response. Instead, the Technical and Monitoring Committees should continue ongoing work to incorporate estimates of uncertainty in the recreational data and more fully consider various factors that may influence recreational catch and harvest. For example, the impacts of management changes on recreational discards and the impacts of year class size and trends in biomass projections should be more thoroughly considered with the goal of better predicting impacts of management measure changes. The Council and Board are currently considering both short-term and long-term modifications to the recreational management system to address some of these uncertainties in recreational management, and achieve a balance of flexibility and stability in the recreational measures. For example, the Council is considering funding a proposal to evaluate moving to an F-based management system for the recreational summer flounder fishery. This type of management would fundamentally alter the approach to recreational management.

The commercial fishery has reported landings generally very near the commercial quotas for the last several years. Although the commercial overages were higher than average in 2013 and 2014, landings have been below the commercial quota the past two years (Table 3). The NMFS Regional Administrator has in-season closure authority for the commercial summer flounder fishery, and commercial quota monitoring systems in place are typically effective in allowing timely reactions to landings levels that approach quotas. For 2018, staff recommend maintaining ACTs set equal to the ACLs, such that no reduction in catch is taken for management uncertainty.

Table 3: Summer flounder commercial and recreational fishery performance relative to quotas and harvest limits, 2012-2016.

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(-)
2012	13.04	12.73	+2%	6.49	8.49	-24%
2013	12.44	11.44	+9%	7.36	7.63	-4%
2014	11.00	10.51	+5%	7.39	7.01	+5%
2015	10.68	11.07	-4%	4.72	7.38	-36%
2016	7.81	8.12	-4%	6.18	5.42	+14%
5-yr Avg.	-	-	+2%	-	-	-9%

[a] Source: NEFSC data update for summer flounder, June 2017. [b] Source: NMFS MRIP database as of May 12, 2017. Recreational landings from Maine through North Carolina.

Commercial Quotas and Recreational Harvest Limits

Projected discards are removed from the sector-specific ACTs to derive landings limits, which include annual commercial quotas and recreational harvest limits (Table 1). The sum of the commercial quota and recreational harvest limit is equivalent to the total allowable landings in a given year. The commercial quota is divided amongst the states based on the allocation percentages given in the FMP, shown 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 2018 will not be determined until after the first four waves of 2017 recreational landings are reviewed. These data will become available in October 2017. The Monitoring Committee will meet in November to review these data and make recommendations regarding any necessary changes in the recreational management measures (i.e., bag 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 harvest limit while preventing the recreational ACL from being exceeded.

Commercial Gear Regulations and Minimum Fish Size

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.

Amendment 2 to the Summer Flounder FMP contains provisions that allow for changes in the minimum fish size and minimum mesh size provisions. The current commercial minimum fish size is 14 inches total length (TL). The 14-inch minimum size was implemented in 1997 and represented an increase from the previous minimum size of 13 inches TL.

Current trawl gear regulations require a 5.5-inch diamond or 6.0-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 (November 1-April 30) and 100 lb in the summer (May 1-October 31). The minimum fish size and mesh requirements may be changed through specifications based on the recommendations of the Monitoring Committee. The 5.5 inch diamond or 6.0 inch square minimum mesh size requirements were first implemented in 1993 under Amendment 2 to the FMP, but at the time applied only to the net's codend. Under Amendment 10 to the FMP, effective in 1998, the minimum mesh requirements were modified to apply throughout the whole net.

In the fall of 2015, the Council and Commission's Monitoring and Technical Committees conducted a thorough review of current commercial management measures. The Committees, and subsequently the Council and Board, indicated that further exploration of some of these measures may be warranted. Specifically, for summer flounder, this included assessing the feasibility of a common minimum mesh size for summer flounder, scup, and black sea bass, as well as summarizing past studies on mesh sizes and pot/trap configuration requirements for all three species. Stemming from this discussion, the Council funded a proposal received under the Council's 2016-2017 Collaborative Fisheries Research Program. This project proposes to analyze the selectivity of multiple codend mesh sizes relative to summer flounder, black sea bass and scup retention in the commercial bottom trawl fishery in the Mid-Atlantic region.[7] The results of this study may inform future consideration of adjustments to the summer flounder, scup, and/or black sea bass mesh sizes. At this time, staff do not recommend any changes to the current 14-inch minimum fish size, gear requirements, or seasonal thresholds.

Minimum Mesh Size Exemption Programs

Small Mesh Exemption Area

Vessels landing more than 200 lb of summer flounder, east of longitude 72° 30.0'W, from November 1 through April 30, and using mesh smaller than 5.5 inch minimum mesh (diamond) or 6.0 inch minimum mesh (square) are required to obtain a small mesh exemption program (SMEP) permit from NMFS. The exemption is designed to allow vessels to retain a bycatch of summer flounder while operating in other small-mesh fisheries.

The FMP requires that observer data be reviewed annually to determine whether vessels fishing seaward of the SMEP line with smaller than the required minimum mesh size and landing more than 200 lb of summer flounder are discarding more than 10% (by weight) of their summer flounder catch per trip. Typically, staff evaluate the Northeast Fisheries Observer Program (NEFOP) data for the period from November 1 in the previous year to April 30 in the current year. However, staff has increasingly run into data availability issues when conducting this analysis in early July, when observer data is typically not

[7] Proposal and background documents available at: http://www.mafmc.org/collaborative-research/.

yet available through the end of April in the current year. As such, a year-long lag in the analysis is required this year and may be continued in the future.

Staff evaluated NEFOP data for November 1, 2015 through April 30, 2016 (as well as for the prior year, November 1, 2014 through April 30, 2015). Data for 2015-2016 indicate that a total of 414 trips with at least one tow were observed east of 72° 30.0'W, and of these, 172 of these trips used small mesh (Table 6). Of those 172 trips, 97 trips reported landing more than 200 lb of summer flounder. Of those 97 trips, 20 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 4.8% (20/414 trips). The prior year percentage of trips that met the criteria, also shown in Table 6, was about 4.7%.

In the fall of 2015, the Monitoring and Technical Committees examined trends in this analysis over the past 5 years, and noted that this exemption program does not appear to be negatively impacting the summer flounder stock and appears to be serving its intended purpose of reducing discards of summer flounder in traditional small mesh offshore fisheries. It does not appear that many vessels are fishing with small mesh east of longitude 72° 30.0'W from November 1 to April 30, landing more than the incidental 200-pound limit of summer flounder, and discarding more than 10% of total summer flounder catch.

For an unrelated action earlier this year, GARFO staff compiled the number of vessels issued a letter of authorization (LOA) for the small mesh exemption program in recent years, shown in Table 5, indicating that an average of 65 summer flounder permit holders have requested this LOA from 2012 through 2016.

Based on the information described above, staff recommend no change in the SMEP program.

Table 5: Number of vessels issued the small mesh LOA from fishing year 2012-2016. Source: personal communication, GARFO, 2017.

Year	Vessels Enrolled
2012	71
2013	71
2014	55
2015	65
2016	61

Table 6: Numbers of trips that meet specific criteria based on observed trips from November 1, 2014 to April 30, 2015 and November 1, 2015 to April 30, 2016.

Criteria		Observed Trips	
		Nov. 1, 2014 – April 30, 2015	**Nov. 1, 2015 – April 30, 2016**
A	Observed trips with at least one catch record east of 72° 30' W Longitude	489	414
B	That met the criteria in row A and used small mesh at some point during their trip	160	172
C	That met the criteria in rows A-B and landed more than 200 pounds summer flounder on whole trip	102	97
D	That met the criteria in rows A-C and discarded >10% of summer flounder catch east of 72° 30' W Longitude	23	20
E	% of observed trips with catch east of 72° 30' W Longitude that also used small mesh, landed >200 pounds of summer flounder, and discarded >10% of summer flounder catch (row D/row A)	4.7%	4.8%
F	Total summer flounder discards (pounds) from trips meeting criteria in A-D	17,922	16,780
G	Total summer flounder landings (pounds) from trips meeting criteria in A-D	27,997	24,995
H	Total catch (pounds) from trips meeting criteria in A-D	45,919	41,775

Flynet Exemption Program

Vessels fishing with a two-seam otter trawl flynet are also exempt from the minimum mesh size requirements. Exempt 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 T.D. VanMiddlesworth dated June 14, 2017 (see Attachment) indicates that no summer flounder were landed in the North Carolina flynet fishery in 2016. In 2015, as part of the review of commercial measures, the Monitoring and Technical Committees reviewed information indicating that summer flounder landings in this fishery have generally declined since 2007, and have been under 2,000 lb since 2010. Based on this information, staff recommend no change to this exemption program.

ATTACHMENT

Marine Fisheries
ENVIRONMENTAL QUALITY

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
BRAXTON C. DAVIS
Director

Memorandum

To: Kiley Dancy, MAFMC

From: Todd Daniel VanMiddlesworth, NCDMF

Date: June 14, 2017

Subject: Species composition and landings from the 2016 North Carolina fly net fishery

The 2016 North Carolina fly net species composition and landings in pounds are provided in Table 1. Individual landings listed as "Other Species" are not reported because the data are confidential and cannot be distributed to sources outside the North Carolina 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. Summer flounder were not landed in the 2015 or 2016 fly net fishery. Note that fly net landings for most species were lower in 2016 than in 2015. However, total fly net landings in 2016 were higher than those in 2015 which was likely due to increased effort on targeted fish species and less shoaling at Oregon Inlet resulting in greater access of fly net boats to North Carolina ports.

Table 1. Species composition and landings for 2016 North Carolina fly net fishery. Species with confidential landings are listed under “Other Species”.

Species	Weight (lb)	Percent
Atlantic Croaker	147,652	73.89
Other Species*	50,564	25.30
Loligo Squid	948	0.47
Bluefish	245	0.12
Sea Mullet (Kingfish, Whiting)	242	0.12
Monkfish (Whole)	98	0.05
Gray Trout	76	0.04
Total	199,825	100.00

*Those species with confidential landings included Atlantic Menhaden (Bait), Black Sea Bass, Brown Shrimp (Summer) mixed, Butterfish, Cutlassfish (Ribbonfish), Puffer (Sea Chicken), Scup, and Spot.

Summer flounder Data Update for 2017

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

Fishery and Survey Data

Reported 2016 landings in the commercial fishery were 3,542 mt = 7.809 million lbs, about 96% of the commercial quota (3,683 mt = 8.120 million lbs). Estimated 2016 landings in the recreational fishery were 2,804 mt = 6.182 million lbs, about 114% of the recreational harvest limit (2,458 mt = 5.419 million lbs). Total commercial and recreational landings in 2016 were 6,346 mt = 13.991 million lbs and total commercial and recreational discards were 1,409 mt = 3.106 million lbs, for a total catch in 2016 of 7,755 mt = 17.097 million lbs (Table 1, Figure 1), about 5% above the 2016 ABC of 7,375 mt = 16.259 million lbs.

State and Federal survey stock abundance and biomass indices, with the exception of the Massachusetts indices, all decreased from their most recent peaks during 2009-2012 to 2016 (Figures 2-11). Indices of recruitment (age 0 fish) were generally lower over the last 6-7 years than in the previous decade; recruitment indices in 2016 were highly variable (Figures 12-18).

Table 1. Commercial (comm) and recreational (recr) 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 2004-2016 estimates of recreational catch, and 1982-2003 recreational catch adjusted by the 2004-2011 MRIP to MRFSS ratio for each catch type.

Year	Comm Landings	Comm Discard	Comm Catch	Recr Landings	Recr Discard	Recr Catch	Total Landings	Total Discard	Total 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	5,951	17,721	502	18,222
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	10,420
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	3,152	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	13,653
2004	7,880	1,606	9,486	4,974	1,013	5,987	12,854	2,619	15,473
2005	7,671	1,484	9,155	4,929	950	5,879	12,600	2,434	15,034
2006	6,316	1,482	7,798	4,804	768	5,572	11,120	2,250	13,370
2007	4,544	2,110	6,654	4,199	1,002	5,201	8,743	3,112	11,855
2008	4,179	1,162	5,341	3,689	1,154	4,843	7,868	2,316	10,184
2009	5,013	1,446	6,459	2,716	1,140	3,856	7,729	2,586	10,316
2010	6,078	1,466	7,544	2,317	1,066	3,383	8,395	2,532	10,927
2011	7,515	1,096	8,611	2,645	1,093	3,738	10,160	2,189	12,349
2012	5,916	718	6,634	2,853	815	3,668	8,769	1,533	10,302
2013	5,643	712	6,355	3,351	758	4,109	8,994	1,470	10,464
2014	4,991	785	5,776	3,356	932	4,288	8,347	1,717	10,064
2015	4,843	670	5,513	2,209	563	2,772	7,052	1,233	8,285
2016	3,542	738	4,280	2,804	671	3,475	6,346	1,409	7,755

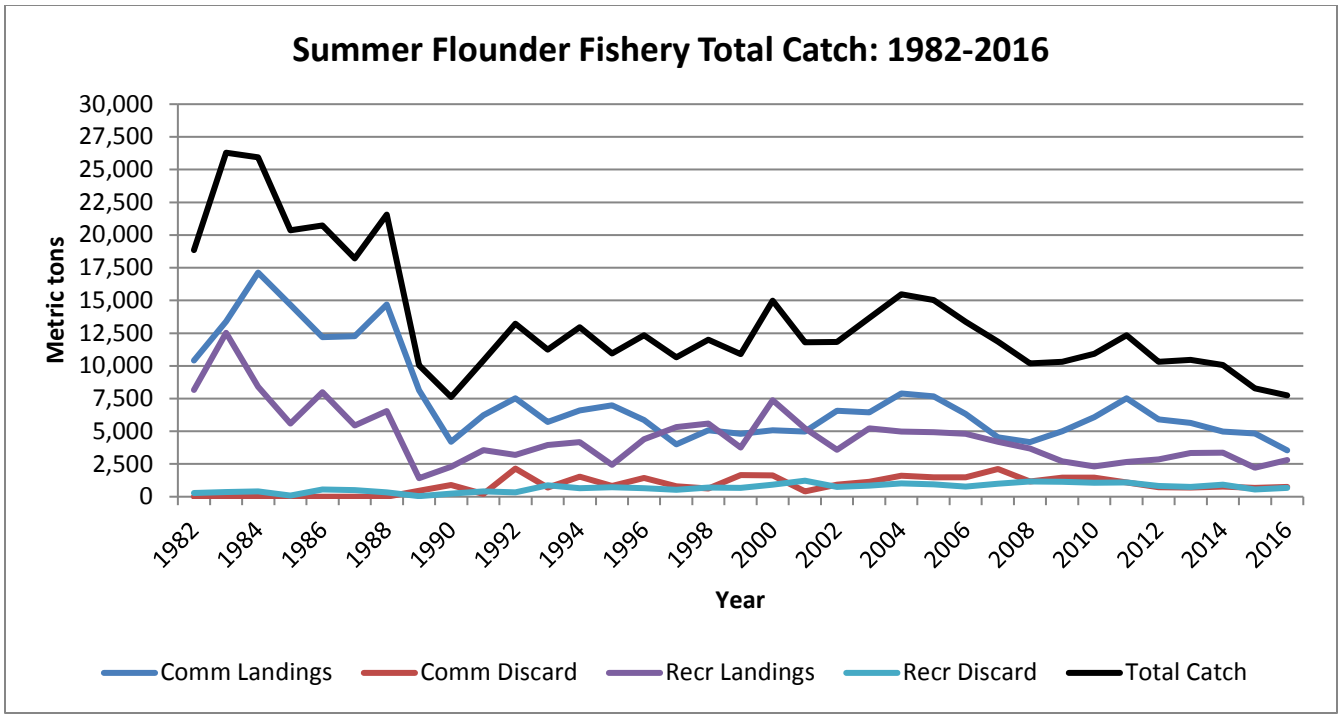

Figure 1. Summer flounder fishery total catch.

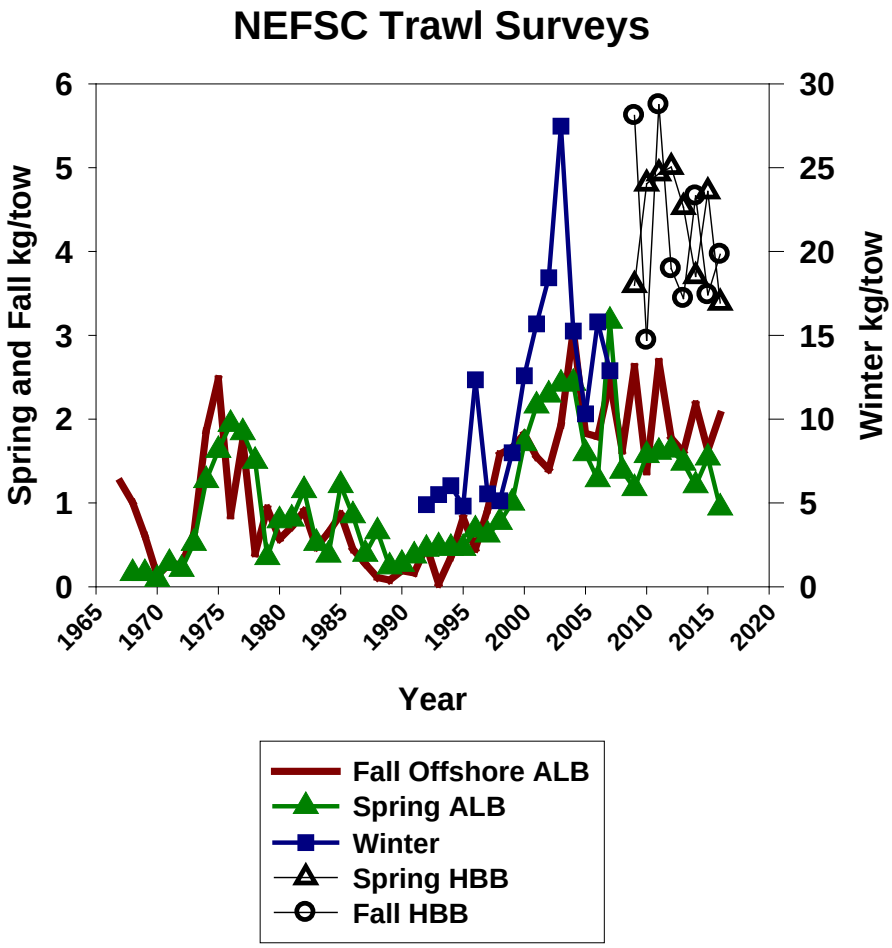

Figure 2. NEFSC trawl survey biomass indices for summer flounder. 'ALB' indices are calibrated FSV Albatross IV indices; 'HBB' indices are uncalibrated FSV Bigelow indices.

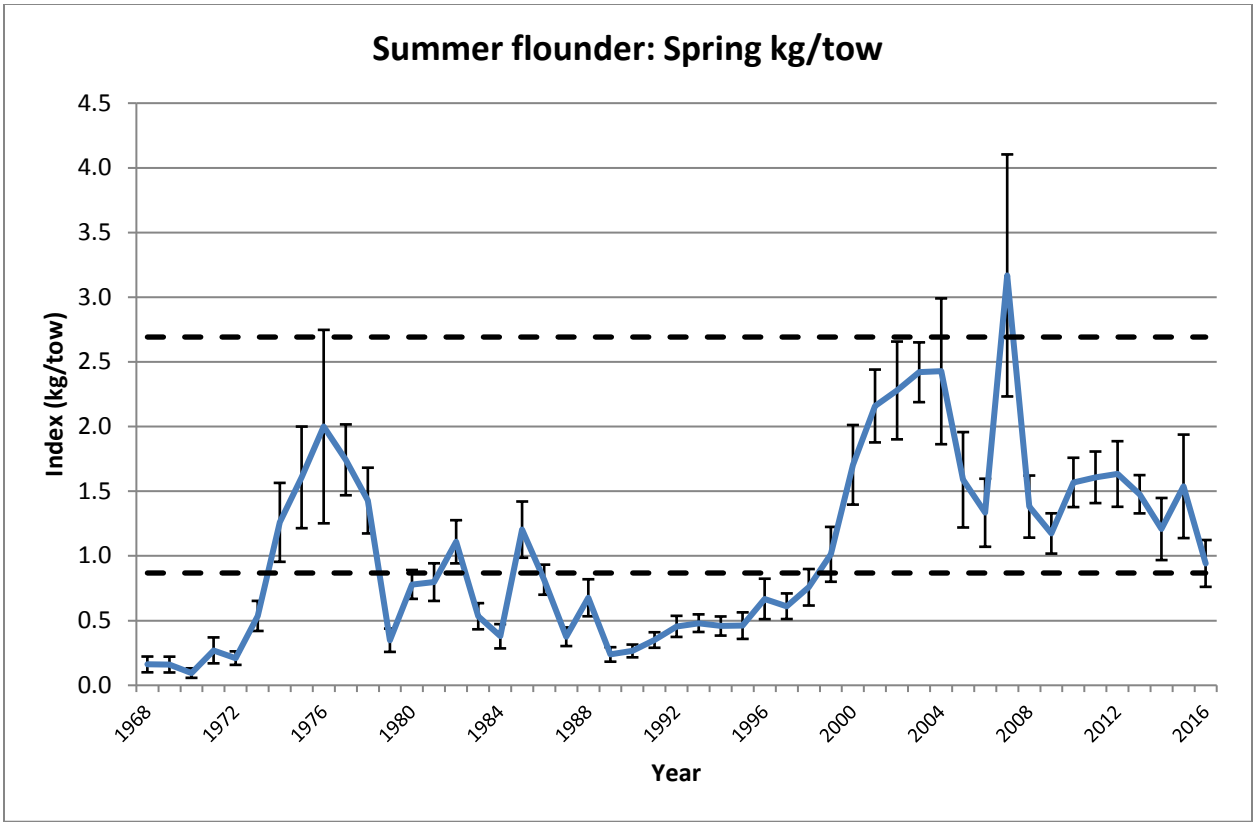

Figure 3. NEFSC spring trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing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

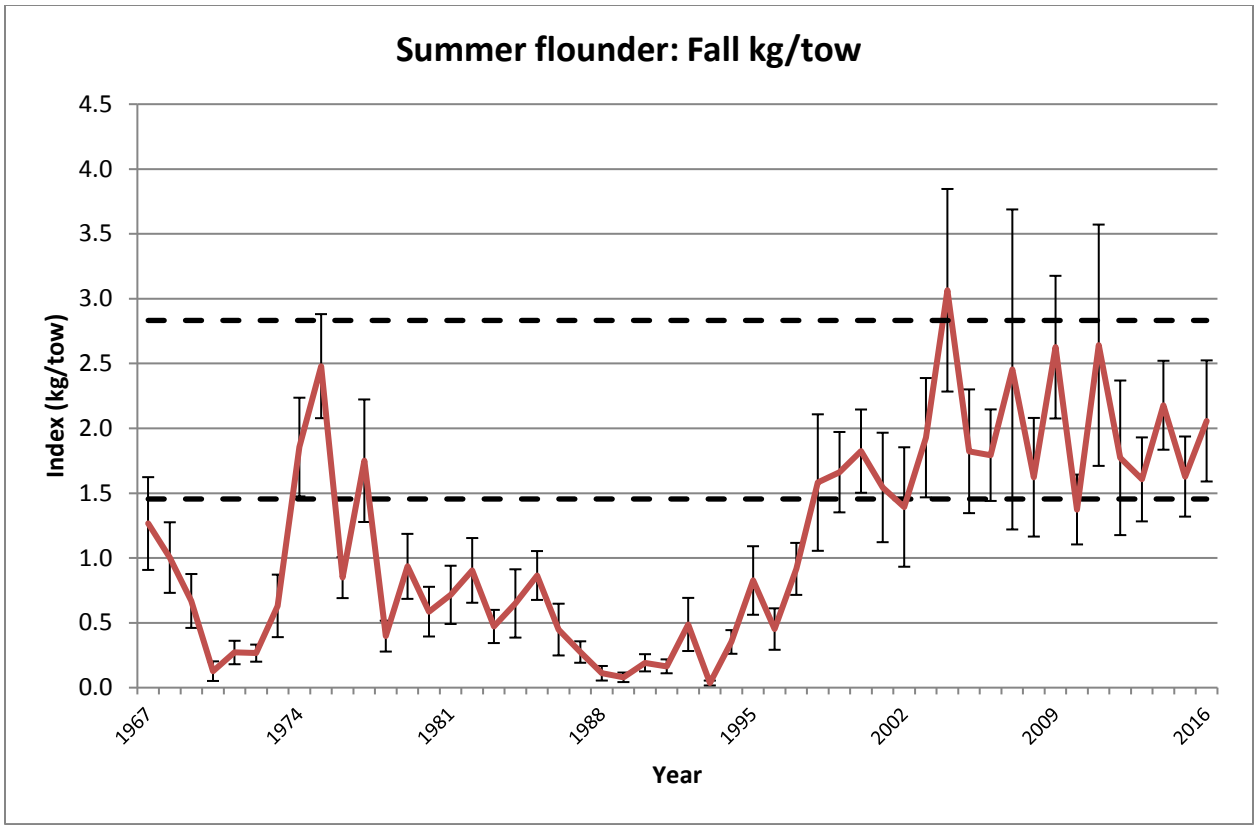

Figure 4. NEFSC fall trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing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

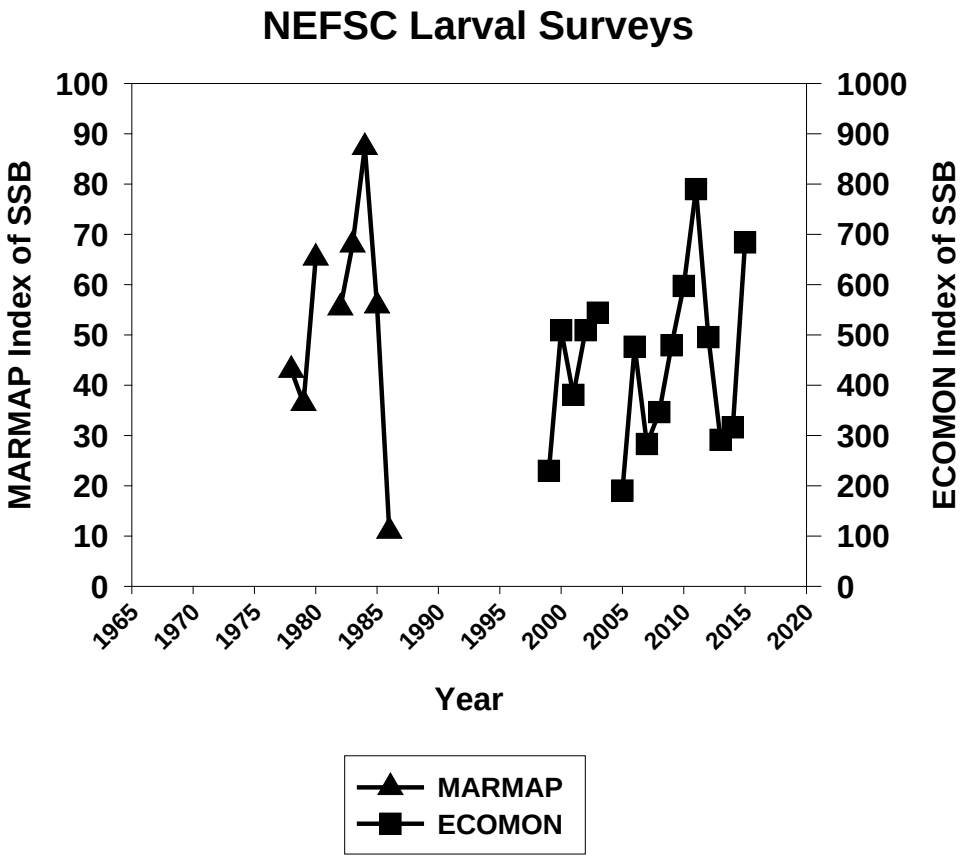

Figure 5. NEFSC larval survey indices of summer flounder spawning stock biomass (SSB).

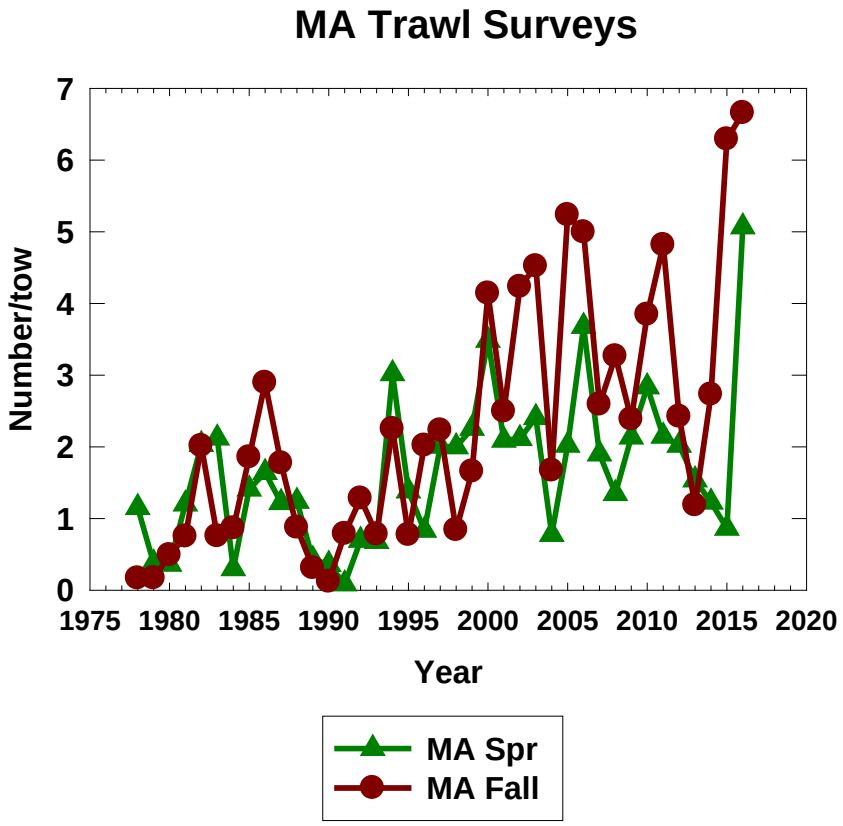

Figure 6. MADMF trawl survey indices for summer flounder.

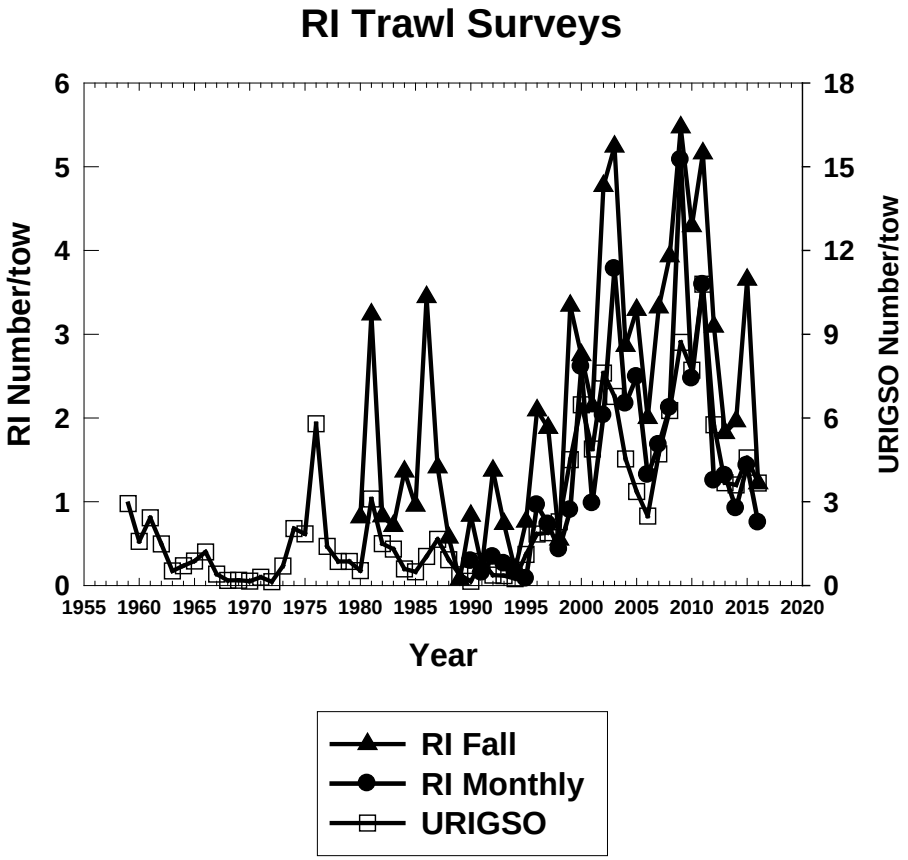

Figure 7. RIDFW and URIGSO trawl survey indices for summer flounder.

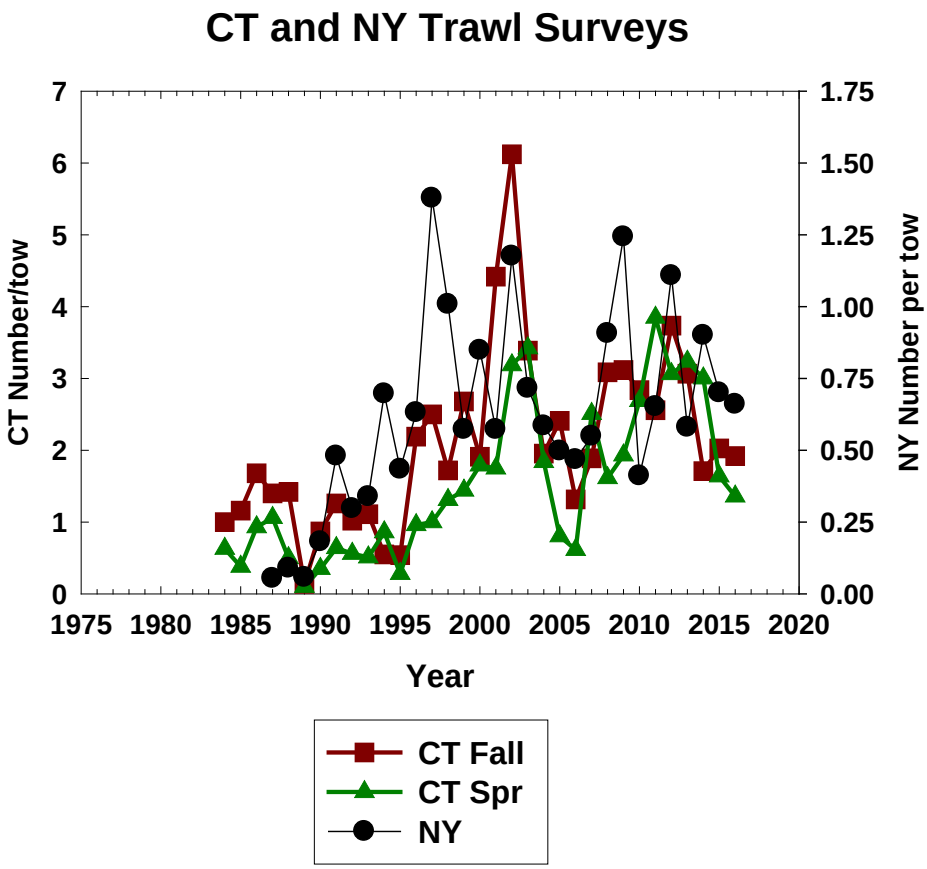

Figure 8. CTDEP and NYDEC trawl survey indices for summer flounder.

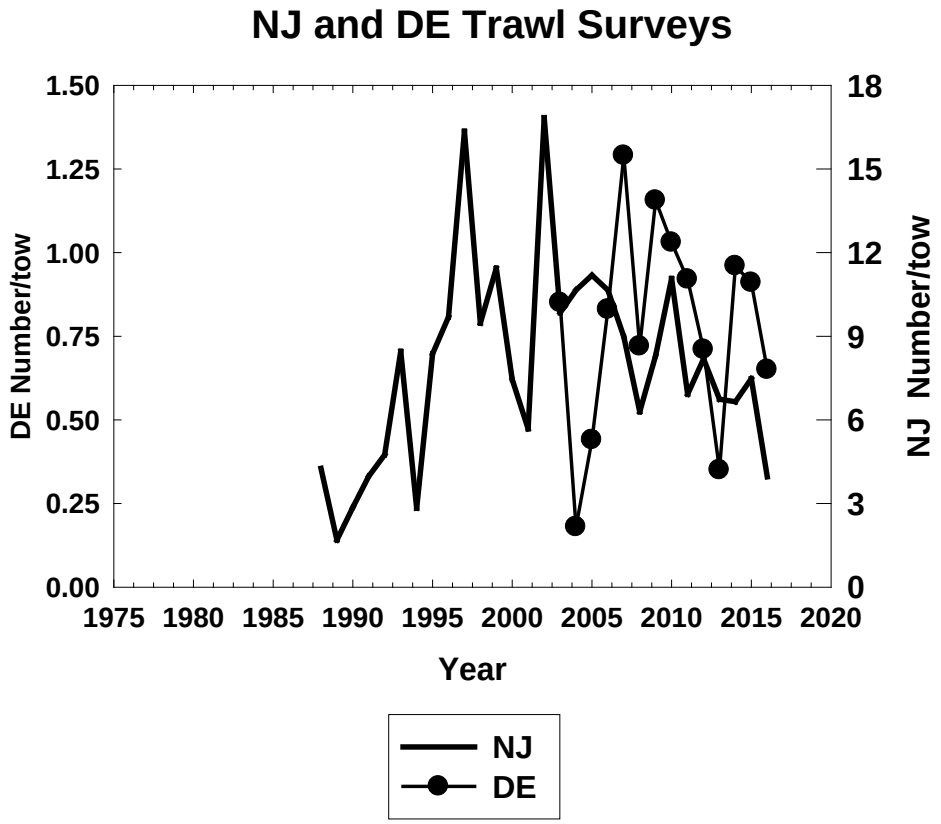

Figure 9. NJDMF and DEDFW trawl survey indices for summer flounder.

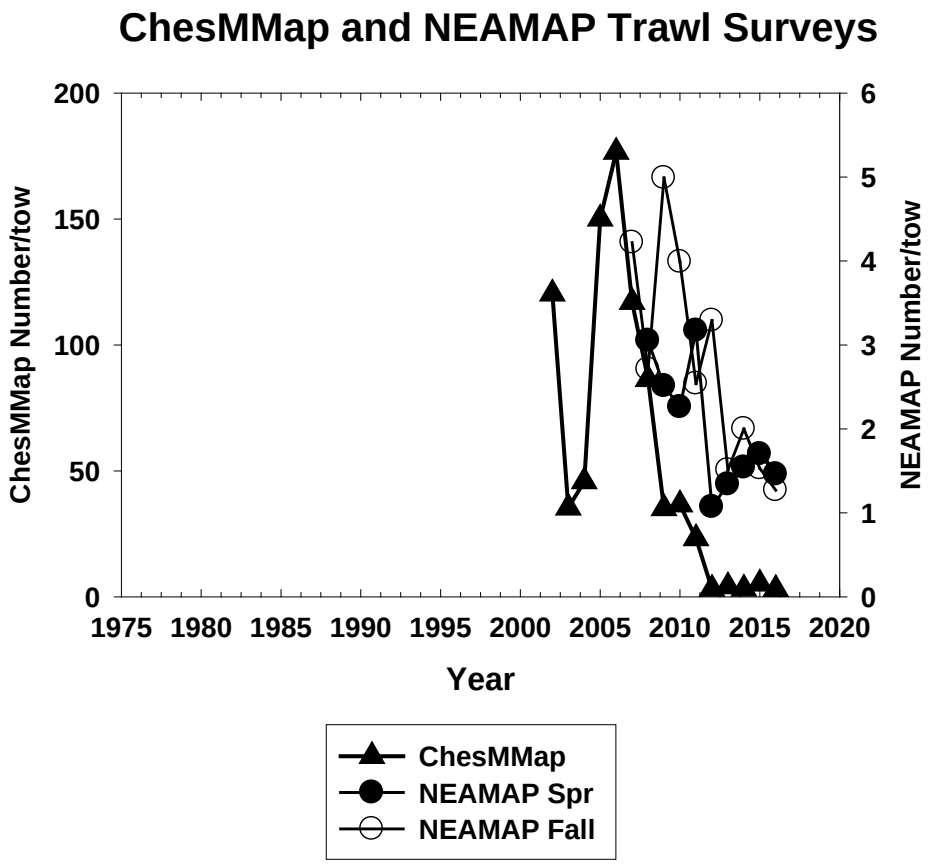

Figure 10. ChesMMAP and NEAMAP trawl survey indices for summer flounder.

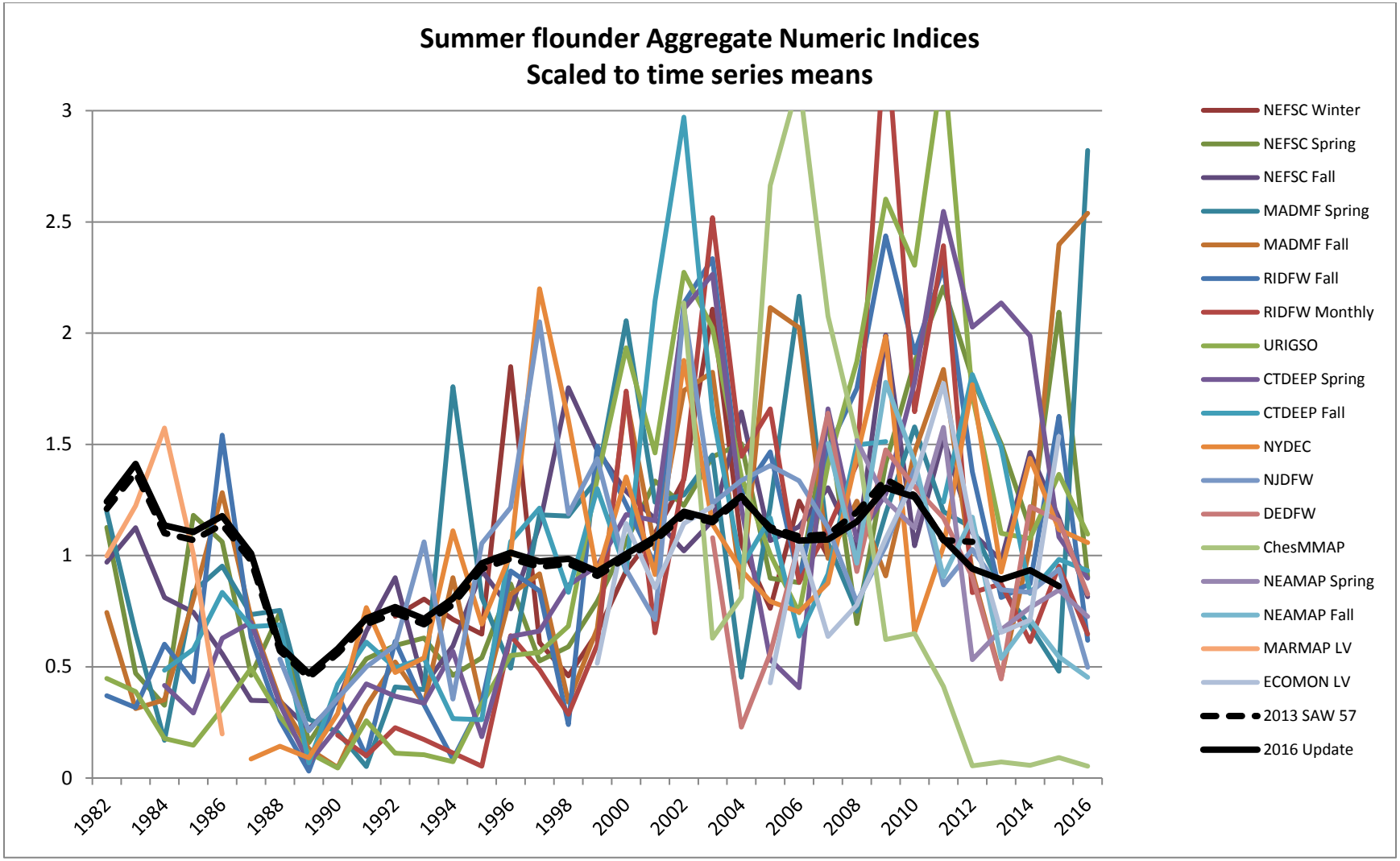

Figure 11. Summer flounder aggregate indices of numeric abundance.

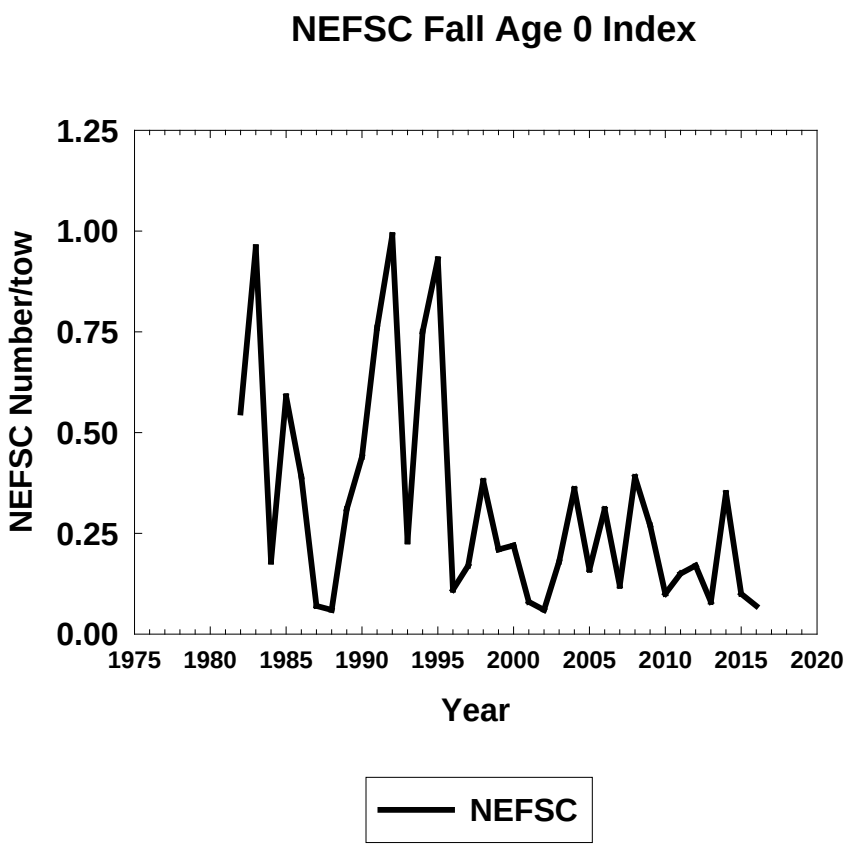

Figure 12. NEFSC age 0 abundance indices for summer flounder.

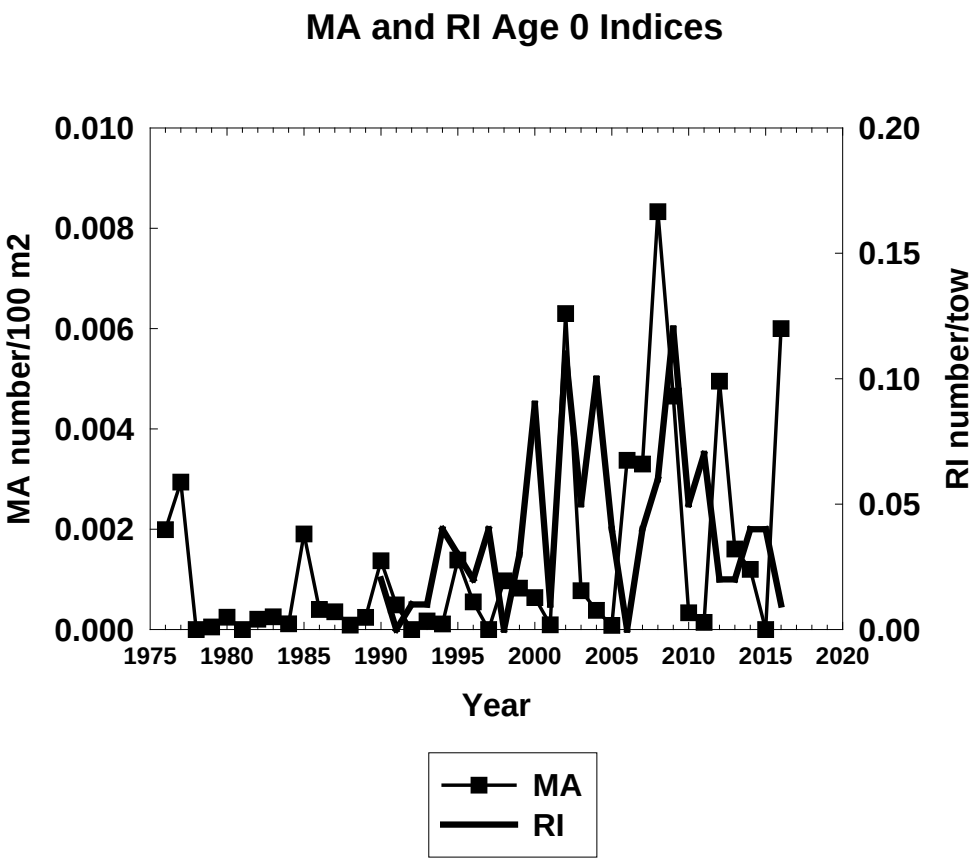

Figure 13. MADMF and RIDFW age 0 abundance indices for summer flounder.

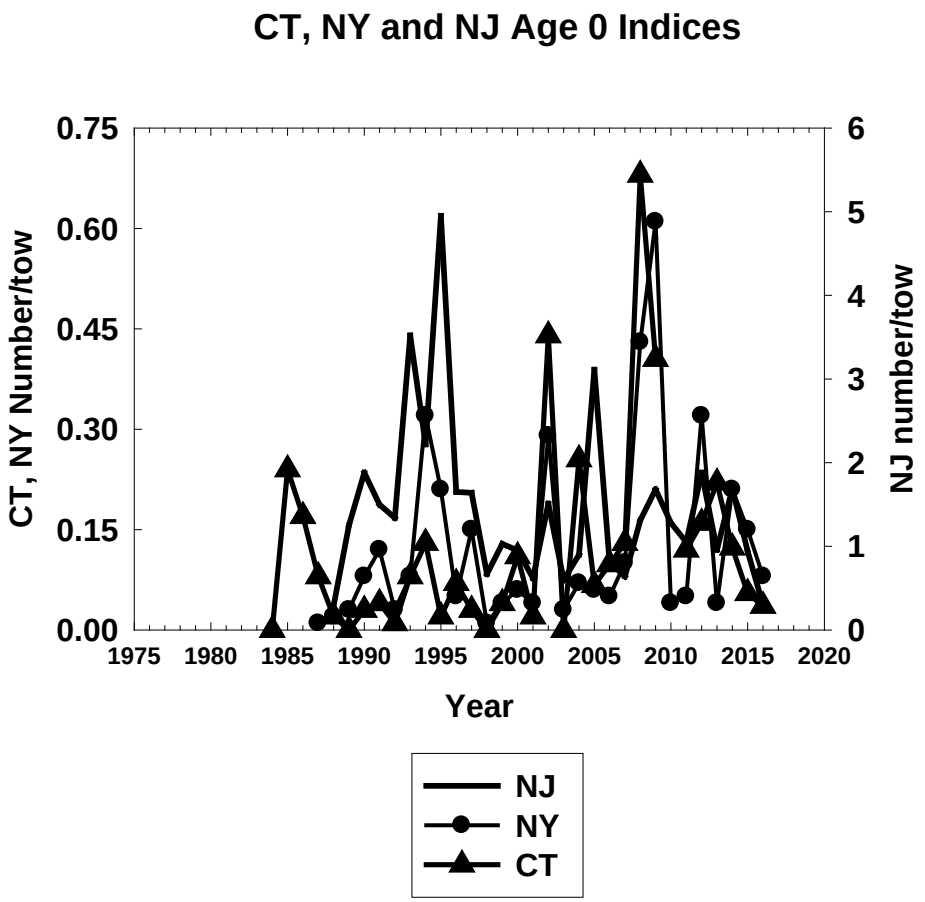

Figure 14. CTDEP, NYDEC, and NJDFW age 0 abundance indices for summer flounder.

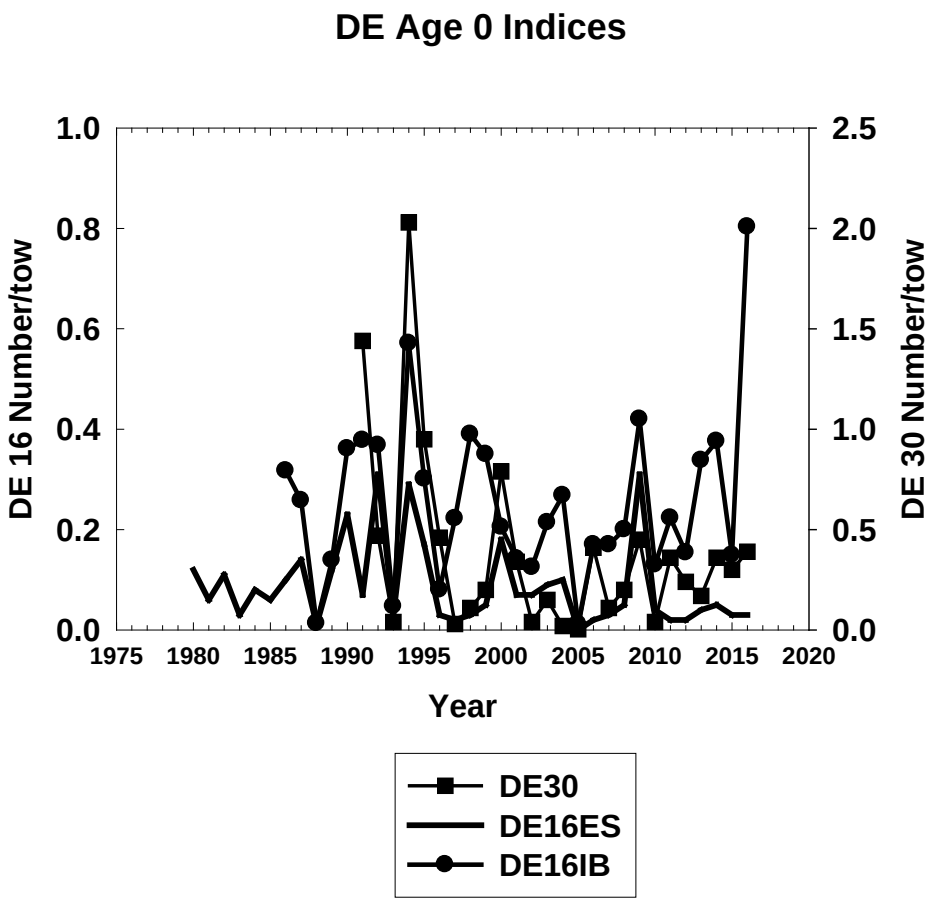

Figure 15. DEDFW age 0 abundance indices for summer flounder.

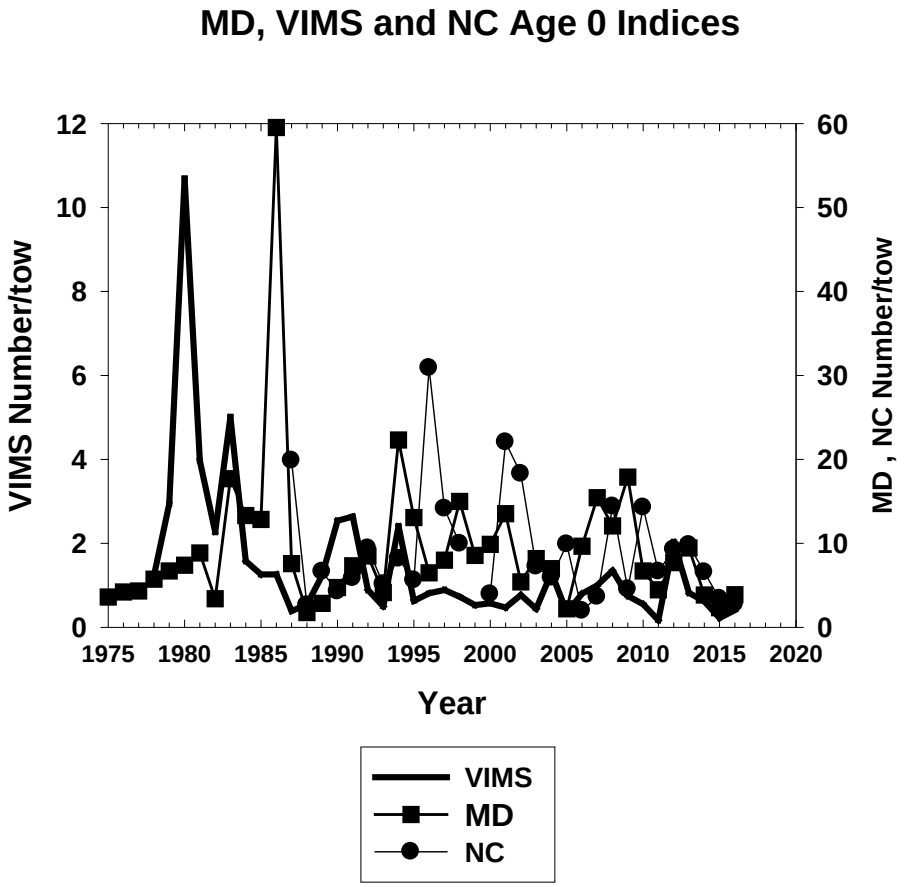

Figure 16. MDDNR, VIMS, and NCDMF age 0 abundance indices for summer flounder.

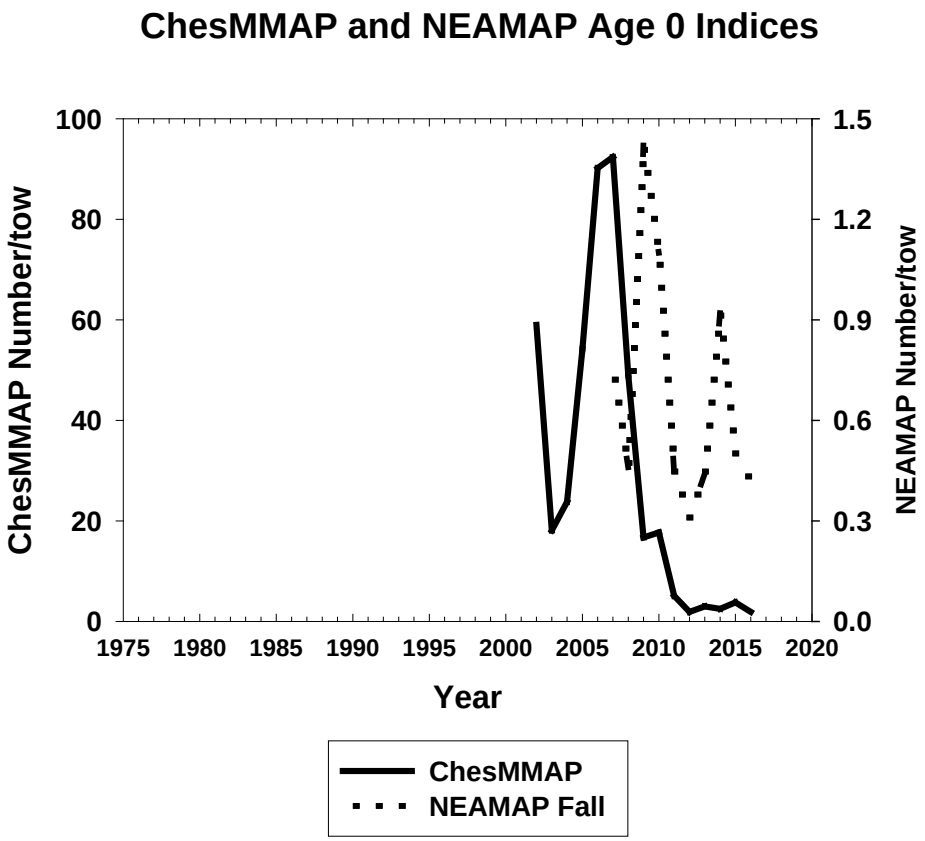

Figure 17. ChesMMAP and NEAMAP age 0 abundance indices for summer flounder.

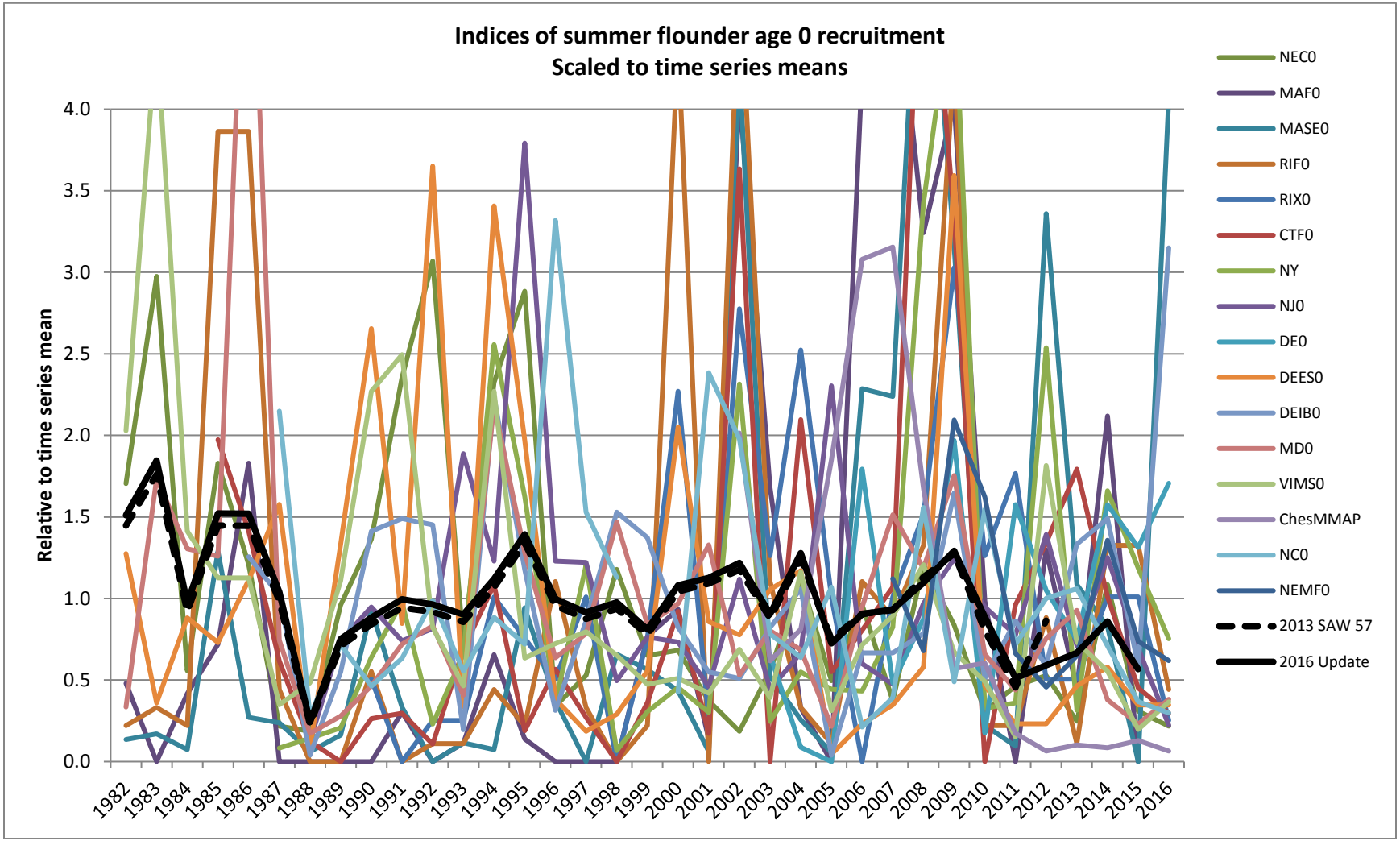

Figure 18. Summer flounder age 0 recruitment indices.

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

June 2017

The Mid-Atlantic Fishery Management Council's (Council) Summer Flounder, Scup, and Black Sea Bass Advisory Panel (AP) met jointly with the Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass AP on June 28, 2017. Advisors reviewed Fishery Information Documents for all three species and developed Fishery Performance Reports based on advisor perspectives on catch and landings and other trends in these fisheries. **Please note:** Advisor comments described below are not necessarily consensus or majority statements.

Council Advisory Panel members present: Meade Amory* (VA), Carl Benson (NJ), Bonnie Brady (NY), Denny Dobbins (VA), Skip Feller (VA), James Fletcher (NC), Ross Pearsall (RI), Michael Plaia* (CT/RI), Harvey Yenkinson (PA/NJ)

Commission Advisory Panel members present: Meade Amory* (VA), Greg DiDomencio (NJ), Marc Hoffman (NY), James Lovgren (NJ), Bob Meimbresse (NJ), Michael Plaia* (RI), Bill Shillingford (NJ), James Tietje (MA), Wes Townsend (DE, and Council member), David Bush (ASMFC Board proxy for NC/AP proxy for Michael Ireland)

Others present: Julia Beaty (MAFMC Staff), Kiley Dancy (MAFMC Staff), Brandon Muffley (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff)

*Serves on both Council and Commission Advisory Panels.

General Comments

One advisor requested that the Northeast Fisheries Science Center (NEFSC) provide annual assessment updates for all three species to help the Council and Commission understand the status of the stocks each year and adjust management measures accordingly.

Multiple advisors noted that the Marine Recreational Information Program (MRIP) data for some states, waves, and/or mode combinations can be highly imprecise. Several advisors expressed frustration that recreational management measures for all three species are based these imprecise data. One advisor requested that the Council and Commission regularly examine the methodology used to generate MRIP estimates each year, including the number and locations of intercepts in each wave. In some cases, a small number of intercepts from one or a few locations have driven harvest estimates in certain waves.

At least one advisor supported requiring all recreational anglers to report all catch through a smartphone app. He said MRIP could be eliminated if recreational anglers were required to report all their catch, as is required for commercial fishermen.

One advisor said the new eVTR systems for for-hire fisheries could be improved if they were vessel-specific as opposed to operator-specific. Multiple captains operate his boat. The current eVTR system stores records for each captain separately and all the records for the boat cannot be viewed simultaneously. Besides this issue, he said the new systems require some getting used to, but should work well.

Research Recommendations for All Three Species

Multiple advisors recommended that research be carried out on the factors influencing recruitment for all three species. A few advisors said trends in spawning stock biomass (SSB) and recruitment for all three species suggest that recruitment is higher when SSB is low.

Several advisors agreed that the number of participants in recreational fisheries has declined in recent years, especially in the for-hire sector. Multiple advisors requested an evaluation of trends in the number of federal and state for-hire permits, recreational fishing licenses, and boat registrations to quantify this trend. One suggestion was for states to report this information annually through the Commission's compliance reports.

Summer Flounder

Environmental and Ecological Issues

At least one advisor said the retrospective pattern in the stock assessment needs to be investigated. Specifically, why age 0 fish are not recruiting into the population in large numbers. This advisor stated that density dependence needs to be properly considered. He believed that when SSB is low, the fish reproduce more, and vice versa.

Two advisors mentioned that the water was cold this past year, off New Jersey, Rhode Island, and New York in particular. Off New Jersey, around the Hudson Canyon, vessels were catching summer flounder and black sea bass until June, a month later than usual for this area. Fish came inshore much later than usual and in general were less available in nearshore areas than usual. He added that in nearshore areas off Monmouth County, NJ, they are seeing a lot of medium sized (14"-16") fish with few jumbos available.

One advisor suggested that instead of managing for catch limits in pounds, managers should evaluate regulations based on the reproductive efficiency of the fish; for example, considering allowing harvest of different sized fish at different times of the year to minimize impacts to spawning populations.

One advisor said he did not see as many large summer flounder in the commercial fishery off New York last year as he has in the past, though he did see evidence of good recruitment. Another advisor described a much larger biomass of summer flounder off New York in recent years.

Market and Economic Issues

An advisor said he has never seen an economic impact study on the drastic impacts recent quota cuts are having, particularly in southern New Jersey. Staff responded that economic analyses are completed each time the quota or management measures are revised. Several advisors agreed that it would be useful to have a cumulative socioeconomic study over several years, instead of evaluating likely impacts in individual years. One suggestion was to obtain state vessel registration

information and evaluate participation trends in the recreational fishery over time (see Research Recommendations for All Three Species).

Commercial Management Issues

Several advisors agreed that commercial catch rates are primarily influenced by regulations, especially quota cuts.

One advisor expressed concern about high grading in the commercial fishery. He said vessels are catching all sizes of summer flounder, but few 14" fish are landed, suggesting high grading. He thought this may be especially true for vessels in states with the option of a higher weekly limit instead of a lower daily limit. Another advisor said this is due to the minimum mesh size, not high grading.

Recreational Management Issues

Several advisors expressed frustration with very restrictive management measures. There was particular frustration with the data used to manage the recreational fishery and the negative impacts it is having on recreational businesses. These advisors believed that underages and overages of the RHL in recent years are partially due to the imprecision of the MRIP estimates.

One advisor noted that according to MRIP, the number of directed summer flounder recreational trips in recent years has exceeded the number of pounds in the RHL, which is a problem; there is too much effort relative to the current RHL for reasonable regulations.

At least six advisors raised concerns around increasing size limits and how this leads to targeting larger females in the recreational fishery. Because the fishery is managed with weight-based harvest limits, it is much easier to exceed these limits when most landed fish are large. Advisors were also concerned about high recreational discards. Several advisors said the current assumed recreational discard mortality rate (10%) may be an underestimate.

Multiple advisors requested that the Council and Commission work to reduce discards by considering management measures such as a lower minimum fish size or a slot limit. One advisor noted that the Council should follow its strategic plan, which includes reducing regulatory discards, and should consider requiring full retention of catch. This advisor stated that for the 2017 season, requiring a 19-inch minimum size increases discards and discard mortality, contrary to elements of the Council's strategic plan. Alternative measures were suggested, including one suggestion for a 13-18" slot limit to reduce mortality on females. Three advisors recommended a total length allowance (i.e., keeping all fish up to a certain total number of inches), with mandatory retention. One advisor suggested allowing for varying size limits or varying slot limits at different times of years to spread fishing mortality over more sizes and year classes of fish.

One advisor requested elimination of the current regional management regime, stating that it has not been good for New Jersey. Another advisor said Northern and Southern New Jersey have very different summer flounder populations, with fish that tend to be smaller in the south.

Research Recommendations

For summer flounder, advisors suggested the following research recommendations:

- Evaluate the impacts of higher fishing mortality on certain size/sex combinations compared to others, and the benefits of spreading fishing mortality more evenly among different age classes;
- Re-evaluate the 10% recreational discard mortality assumption;
- Evaluate the potential impacts of a total length limit on recreational discards;
- Evaluate cumulative economic impacts of quota cuts and management measure restrictions over several years, including state-level analysis;
- Complete a cost/benefit analysis of changing specifications every year vs. keeping catch limits and measures stable for several years at a time;
- Evaluate the impacts of requiring full retention of the catch for the recreational fishery.

Harvey Yenkinson comments, 6-26-17

To give you a report on the status of recreational fisheries in southern New Jersey, I would report the following:

My marina, the largest in New Jersey has about 20% slip vacancy with boats staying in the water for shorter periods of time. Many fewer people fishing compared to previous years. Catch of striped bass (90% decrease), drum (50% decrease), fluke (70% decrease) all less than previous several years. Sea bass catch good but many boats running 20-30 miles. Almost no scup caught in south Jersey. Regulatory compliance not good.

I would like to submit the following comments which I believe are at the crux of our inability to rebuild the summer flounder population

1. As I have previously mentioned, we need to manage E-W migrating stocks differently then we do N-S migrating stocks. For a species that migrates N-S, it makes little difference where on its migratory pathway it is harvested. The same is not true for an E-W migratory species. Here over harvest in one area can cause localized depletion in the area off of a group of states.

A prime example of this problem is the shift of the epicenter of the fluke population over 60 miles to the north in the last several decades, a shift too great to be explained by the few tenths of degree of ocean warmth that has occurred in that same time frame. The commercial fleet from the southern states , holding nearly 50% of the commercial quota, has caused depletion of their own fluke stocks and now must fish hundreds of miles to the north to fill their quotas, causing the epicenter of the fluke stock to shift further and further north.

Magnuson demands that we provide equitable resource to all components of the fishing industry. The failure to put restrictions on regional harvest will inevitably continue to worsen regional stock depletion. Commercial overexploitation, particularly in the winter months, will cause localized depletions for the recreational fleets dependent on the inshore migration of those fish.

2. We need to rethink the basics of our fish stock parameters and cease considering that a pound of fish of one sex (and its state of fecundity) hold the same parity status of a pound in a dissimilar status. I recommend and have sent such recommendation to our SSC, that we come up with a reproductive efficiency model (REM) for harvesting parameters. With our stock knowledge, complex fish formulas, and computer capabilities, we can surely come up with better formulas to consider fish at different sizes, sexes, and reproductive status as having different worth for replenishing the stock. Reduced pressure on spawning stocks is ever so important when a stock nears an over fished status. Regulating fisheries on a poundage basis alone is an archaic system that needs revamping.

The entirety of the recreational catch and a majority of the commercial catch targets the potential spawning population. With a stock averaging low recruitments and declining SSB, continued exploitation of the component of the stock (spawning females) that is best capable of restoring the stock, is a very bad management practice.

Another example occurs in the commercial fishery where more and more of the quota is caught

in the fall-winter spawning season (80% of quota caught between Sept-April). A harvest of a million pounds of spawning females is far more detrimental to the stock then a harvest of a million pounds of post spawning females. Both regional and temporal regulation is desperately needed to allow stock replenishment. Area closures and regional closures should occur to allow the SSB to spawn successfully. Regional closures should occur in the southern range of the species and the hard hit midAtlantic wintering areas. Temporal closures should occur when the stock is spawning in that time frame in that locale.

By restricting catch on the spawning group, in essence, we increase the SSB. For example, if the average fluke lives long enough to spawn 5 times, and we allow it to spawn 6 times, we have mathematically increased the SSB by 16.%!

3. We need to examine how our regulations interact to the detriment of the fisheries and the stock.

I consider the following model to think about this process. I picture a bucket with four holes in the bottom to show the status of our fishery.

At the top is a funnel feeding the bucket.....The size of the funnel openings is reflective of the SSB and recruitment

a. One hole in the bottom is M, the natural mortality of members of the stock caused by natural mortality and predation. Not paying attention to commingled predators (like dogfish) can effect the size of this hole.

b. The second hole is F, our regulations hole effected by size, season, and bag limits.

c. The third hole is loss of fish due to discards, effected by the same parameters above, along with other factors like closed seasons, high grading, wasteful practices, small hook size, etc

d. The fourth hole is fish loss by illegal fishing.

This problem with these "holes" is that by changing one hole size, other hole sizes are changed, sometimes in a way which we know exists but don't attempt, or don't accurately know how, to add to our fisheries formulas.

For example, we know if we increase the size limit, we will increase the discard loss. In the recreational fishery, many fishermen go home empty handed having caused a large discard loss while retaining few to any fish. The consequence of such management is we stay within Magnuson parameters but provide little incentive to the recreational fishing industry.

A second example, is the tighter the restriction in size and quota, the more illegal fisheries will occur. I liken this to the gun control debate where only criminals will have guns if regulations are not crafted carefully. My own observations, fishing for fluke for over 40 years, is that anglers have gone from almost always compliant (since regulations began in 1989) to less then 20% compliant now. As Dr. Bill Holgarth, former NOAA head said to me, "If we make the

regulations too restrictive, people won't follow them." We know this problem exists and I know the monitoring committee tries to compensate for this, but I think we need to put this in our fishery calculations. I suggest the NEFSC, or other agencies contract a study on this problem so that we can have a formulation to consider when setting quotas and size limits. I fear what we think we are accomplishing by tightening regulations may be accomplishing just the opposite.

4. We need to make high grading an illegal practice in the recreational and commercial industries

An example of this occurs in the commercial fishery where the larger fish, worth more per pound, are kept, with legal size fish being discarded. Additional tows result in more fish kill when the allowed poundage quota could have already been filled.

5. We should stop trying to manage our recreational fisheries on an annual basis

Recent data shows wide ranges in recreational harvest despite changes in bag, size, and season limits. While each change should help, our data shows we may be accomplishing little. Our current data collection methods are so poor that we should only look at them over a time frame of several years at a minimum. Our SSC struggles with time constraints on data input trying to come up with recommendations on an annual basis further complicating annual regulatory changes.

Our fisheries sorely need a more consistent quota on a yearly basis instead of such drastic swings from year to year. If the federal reserve changed interest rates the same as we change fishery quotas, the worlds economies would be in shambles. Our fisheries are a smaller microcosm of the same type of process and much harm is done by this lack of consistency.

6. Stop regionalized conservation equivalency

The disparity of size and density of the fluke population, and its ever shifting status, creates unnecessary damaging effect to our recreational fleets by cojoining states as a single region. Just as we realized a coastwide equivalency formulation is neither fair nor appropriate, so to is joining states for regulatory purposes when the regions stock status is nonuniform.

7. States appropriate recreational quotas

I would argue that a states recreational fluke quota should be based on the current effort of that state's fishing population. The current system based on 1998 quotas is outdated and unfair. My suggestion would be to use the number of registered recreational private and charter boats along with the number of registered saltwater anglers who pursue that species. A simple and easy to obtain piece of data is to ask anglers what species of fish they fish for and how often, when they complete their annual recreational saltwater registry. Quotas would then be allocated to states based on the number of party and charter boats (capacity/day) combined with the number of recreational anglers fishing for that species in that state. This type of system would result in a fair allocation of the resource to the angling public.

8. Institute slot parameters in our fluke FMP.

Our federal regulations should allow for slot sizes, not just the current minimum size limits. Our recreational fisheries would function much better under such a program where more breeders would be spared and angler could fish more heavily on the male component of the stock.

9. We need to pay attention to how our fishery regulations impact one another.

An example occurs in the recreational industry in our area. When we close fluke fishing in September, we concurrently have federal waters sea bass in a closed status as well. In southern New Jersey where I fish, there is a two month season where charter and private boats sit at the dock with a vast downturn in all fishery related businesses in the area.

Sea bass recommendations

1. I would recommend that the recreational catch be a male only catch. With studies showing the relative unimportance of super males in procreation for this species, harvest should be directed for those members, preserving the more important females and subordinate males.

2. I would recommend requiring recreational venting or other techniques when fishing in water over 75 feet when returning sea bass. Many fish are seen floating around recreational fleets in deep water.

3. I would eliminate the federal waters closure on sea bass currently between 9/21 and 10/22. With fluke closed then, there is little for the recreational fleet to go for.

Research studies proposed for fluke

1. Do additional studies on what slot size parameters would be most effective for the recreational fleet.

2. Do additional studies on prime spawning periods in different latitudes to consider seasonal closure of areas during the winter months.

3. Do additional tagging studies to document inshore-offshore fluke migration patterns to consider spatial closures so as not to cause spatial depletions of our fluke populations.

4. Do studies to try and reduce mortality on discards

a. hook size and type recreational fleet
b. methodology to reduce 80% dead discard rate in the commercial fishery...net modifications, shorter tow times, methodology to reduce crushing of fish when net pulled out of the water.

5. Do studies to consider how other fisheries (scallop, sea bass, skate) impact the discard rate for fluke.

6. Data is much needed to understand how our regulatory constraints contribute to the illegal fisheries. What parameters contribute most to increasing the illegal catch.....Size limit, seasonal closures, ever changing regulations, lack of confidence in our fisheries management, lack of knowledge, poor dissemination of state regulations, etc.

7. Studies that may help us understand why our fluke stock is not rebuilding despite ever decreasing quotas

Research studies for sea bass

1. Is a federally closed season, from late Sept till late October, effecting local fisheries economics and is it at all beneficial

2. How would a male directed fishery effect the stock

3. How to reduce tremendous dead discard rate in the commercial fishery as it trends away from a pot based fishery.

4. Ways to improve potting of sea bass

Brady Lybarger: Comments provided to Kiley Dancy by phone, 6/27/2017

- On New Jersey's recreational non-compliance finding for summer founder, from a commercial standpoint is frustrating. The commercial numbers are highly regulated. We can't come up with whatever measures we want like the recreational fishery seems to be able to.
- Looking for more detail on which summer flounder migrate north/south vs. east/west? New Jersey is kind of in the middle where they see two different migrations. This is seen in the commercial fishery – fish suddenly start to go east, and you can tell they're not coming from the south. Around January you can see those fish move from the south and no more fish moving in from the west. Curious where that migration line is drawn exactly. We're in the strange pocket of NJ where some go each way.
- For scup, we haven't seen over the last two years large numbers of scup below the Hudson Canyon – they are not as high as in the past. The last couple of years, they have been more above the Hudson Canyon line and east-northeast, and haven't come down as far. Not sure if this shows up in the spatial fishery information the Council reviews such as VTRs. Cape May boats generally haven't gone after scup in the last couple of years because they've been out of reach.
- There were not a lot of scup landings in Cape May this past winter. Point Pleasant and north had a fair amount of landings. Hearing they are more on the northeastern side of Hudson Canyon. It's not very appealing to go out there for Cape May guys because of the potential to catch sea bass and fluke, when you can't necessarily land it up there. Once you get that bycatch, you're limited in where you can go. Scup landings for Cape May boats in 2016 dropped off compared to 2015, and then in 2017 were very few (for boats fishing primarily south of Hudson Canyon). It seems like the very juvenile fish come down here – maybe they need warmer waters, and the larger more mature fish can withstand colder waters up north, or maybe it's food related.
- I support developing landings flexibility in the summer flounder amendment. We need more flexibility to land where convenient with each trip. We would like to be able to offload scup in Rhode Island, but have on board our quota for fluke, and not offload them, then travel to New Jersey to unload them. We would like to have the flexibility to bump down the coast and land in different ports. We should have the ability to separate different limits of fish in the hold and offload them where we'd like.
- If moving toward a scup quota model for summer flounder, we might have to make sea bass the same system for consistency. Many are using fluke and sea bass profits together to fund a trip. The scup model may make the fluke fishery a derby fishery in the winter. Right now, it isn't like that for scup because the price isn't there. If you made this system for fluke, wouldn't you be creating a derby fishery in the winter? If the winter fishery closed for fluke, would there be a bycatch amount allowed or would all landings be closed?
- Virginia's program for bycatch management of fluke is pretty good. Once it closes the limit goes to 10% of your catch. We should have some kind of bycatch allowance set-aside for when the coastwide fishery closes. When you're done catching flounder, you're not using a flounder net, but you can still have flounder bycatch.

From: Conway Jr, JACK D [mailto:jack.d.conway.jr@lmco.com]
Sent: Wednesday, June 28, 2017 10:52 AM
To: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>
Subject: Comments from the CT

My comments are based on recreational fishing in CT (versus commercial landings) and my comments are focused on the largest user group in the recreational community (the private boat based angler). This group tends to be underrepresented in AP process.

1. **What factors have influenced catch in recent years for summer flounder, scup, and black sea bass?**

   From my perspective summer flounder fishing has been very poor, while CT recreational landing estimates conflict with my perception I stand by my conclusions which are based on conversations with anglers across the state. 2017 landings in Central Long Island Sound (my home waters) are shockingly low so far this year. The CT fishing community has basically switched gears to target black sea bass (BSB) which are abundant in the early season in Western and Central Long Island Sound. To be blunt, for the most part fishing opportunities in Central Long Island Sound would be non-existent without an early BSB season. In my chats with the recreational fishing community, one of my jokes is that our landings reflect the stock status (we aren't catching summer flounder because they are not available). To further the discussion, CT used to have a great spring striped bass fishery (in the open waters of Long Island Sound), that fishery is a shadow of what it once was, BSB have replaced striped bass as the "go to" fish in May/June of the year.

   In a similar fashion, scup have filled the niche left open by the lack of summer flounder and striped bass. Once scup settle into Long Island Sound in July (and remain until October), scup provide angling opportunity and have become much more popular among the general public. They also provide an alternative to tautog fishing (a fishery in big trouble in Long Island Sound). Management of scup to allow a long season and somewhat high bag limit in Long Island Sound is incredibly important to the recreational community.

   The bottom line is that there has been a major shift in efforts and landings in CT to coincide with stock abundance, with BSB and scup being the "go to" species in CT.

2. **Research Recommendations**

   I believe there should be an effort to understand spawning in BSB. The Central LIS BSB fishery I discussed above is on a spawning population. I'm not certain if LIS spawning is important to recruitment or if it's just an interesting phenomena that provides angling opportunity, and/or if BSB actually favor spawning in inshore waters (although in this case the water in question is approximately 100 feet deep) and in a variety of areas (outside of LIS).

Apologies on missing the meeting.

Jack Conway

Kiley Dancy

From: Jeff <jgutman28@comcast.net>
Sent: Wednesday, July 05, 2017 10:33 AM
To: Kiley Dancy
Subject: Re: Draft Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports

Kiley,

I'm sorry I could not make the meeting but I was offshore on a 2-Day trip. I have inserted my comments in Red into your draft text below.

Thanks,
Jeff Gutman

General Comments

One advisor requested that the Northeast Fisheries Science Center (NEFSC) provide annual assessment updates for all three species to help the Council and Commission understand the status of the stocks each year and adjust management measures accordingly.

Multiple advisors noted that the Marine Recreational Information Program (MRIP) data for some states, waves, and/or mode combinations can be highly imprecise. Several advisors expressed frustration that recreational management measures for all three species are based these imprecise data. One advisor requested that the Council and Commission regularly examine the methodology used to generate MRIP estimates each year, including the number and locations of intercepts in each wave. In some cases, a small number of intercepts from one or a few locations have driven harvest estimates in certain waves.

At least one advisor supported requiring all recreational anglers to report all catch through a smartphone app. He said MRIP could be eliminated if recreational anglers were required to report all their catch, as is required for commercial fishermen.

One advisor said the new eVTR systems for for-hire fisheries could be improved if they were vessel-specific as opposed to operator-specific. Multiple captains operate his boat. The current eVTR system stores records for each captain separately and all the records for the boat cannot be viewed simultaneously. Besides this issue, he said the new systems require some getting used to, but should work well. **I have just started using the E-VTR and I have run across this issue already with multiple captains. The system is good but not perfect as I do not have any Wi-Fi at the boat it is hard to get the app started before leaving the dock, and if you turn it off by accident you can't re-start it without internet and I am usually 100 miles offshore.**

I once again question whether the council pays any mind to the AP suggestions. We continue to urge the council to try and limit discards but they continue policies that do not. We should have smaller size limits so that discards and discard mortality are limited. We throw too many valuable fish back dead! The council can manage species such as scup and sea bass on a mortality basis if they want to as opposed to a poundage quota. They can stop the practice of setting the RHL in pounds, then shifting the regs to #'s of fish which are then converted back to pounds. This is an action the council can correct yet they would rather not deal with

it until the time each year when they set specs and the recreational sector exceeds the RHL because the pounds per fish is higher than the prior year and they have caught fewer fish but more pounds.

I would also urge the council to allow more time for public comment and more time on the agenda for items they know will be contentious (i.e.sea bass). There is no worse feeling than seeing your livelihood discussed and dismantled in 1.5 hours because we "have to move on".

Research Recommendations for All Three Species

Multiple advisors recommended that research be carried out on the factors influencing recruitment for all three species. A few advisors said trends in spawning stock biomass (SSB) and recruitment for all three species suggest that recruitment is higher when SSB is low.

Several advisors agreed that the number of participants in recreational fisheries has declined in recent years, especially in the for-hire sector. Multiple advisors requested an evaluation of trends in the number of federal and state for-hire permits, recreational fishing licenses, and boat registrations to quantify this trend. One suggestion was for states to report this information annually through the Commission's compliance reports. **I agree that participation is way down, especially in the for-hire sector.**

Scup

Environmental and Ecological Issues

Multiple advisors said many large scup are being caught in both the commercial and recreational fisheries. One advisor asked about scup size at age for older ages and said it may no longer be true that few scup older than 7 years are caught in the Mid-Atlantic, as is stated in the Fishery Information Document.

One advisor said the recent downward trend in scup SSB may simply be the result of the population reaching its environmental carrying capacity. Many advisors agreed that scup are currently very abundant.

A few advisors described recent changes in the distribution of scup. One advisor said that the size of scup south of Cape Cod has increased and they have been staying in the area longer. Other advisors said there were few adult scup south of Hudson Canyon this past winter.

One advisor said some commercial fishermen don't target scup during certain times of year due to high abundances of dogfish.

Market and Economic Issues

A few advisors said commercial scup landings are heavily influenced by price. One advisor said the price of scup is driven by imported fish, especially tilapia. He argued that unnecessarily restrictive scup management measures have given tilapia a market advantage. Another advisor said the 50,000-pound Winter I trip limit has a greater influence on price. With such a high trip limit, one or two trips can easily flood the market, causing the price to decrease. In the past, the price has fallen so low that fishermen temporarily stopped targeting scup. He said this was not an issue in New Jersey this past winter as fewer scup were caught south of Hudson Canyon. One advisor said price has not been as much of a problem in New York even though at least one vessel regularly lands the full 50,000-pound trip limit. In her opinion, price is more dependent on the quality of

the product, which is dependent on the methods used to catch and store scup.

General Management Issues

One advisor said it is illogical that the commercial quotas and recreational harvest limits (RHLs) are declining even though landings have been well below these limits in recent years and SSB is well above the target.

Commercial Management Issues

One advisor noted that although the commercial fishery is predominantly a bottom trawl fishery, there is a substantial floating trap component to the fishery in Rhode Island.

Advisors held differing opinions on whether the commercial minimum fish size should be reduced from 9 to 8 inches. One advisor said the minimum size should be reduced to reduce fishing pressure on sexually mature individuals. Three other advisors said they did not support changing the minimum size. One advisor suggested that the regulations could be modified to allow a small percentage of retained scup to be below the minimum size. Two advisors said it has not been difficult to catch scup that are at least 9 inches in recent years.

Advisors also held different opinions of the 50,000-pound Winter I trip limit. One advisor said he did not like this trip limit as it allows the market to be flooded, which can lead to a decrease in price. Another advisor said the high trip limit helps create a consistent supply of scup, which is necessary to grow markets and can help the fishery compete against substitutes such as tilapia.

An AP proxy for the Commission thought a change in the start date of the Summer quota period, as considered during a recent framework and addendum, warrants further consideration. Specifically, if the Winter I period were extended into the month of May, commercial fishermen would be able to land more scup under the higher Winter I possession limit.

One advisor thought the scup Gear Restricted Areas have been very beneficial for the stock and that this type of management strategy should be used more often.

Recreational Management Issues

A few advisors agreed that private anglers are, for the most part, not targeting scup. Scup are not as desirable as other species because they have many small bones and only the largest fish can be easily filleted. Multiple advisors said anglers appreciate the ability to catch scup as more desirable species such as summer flounder and striped bass have become less abundant or the regulations have become more restrictive.

A few advisors said they believed the MRIP data showing a higher proportion of private landings compared to for-hire landings to be inaccurate. A few advisors said anglers on for-hire boats tend to land more scup than private anglers because paying customers typically want to catch a lot of fish, as is possible with high scup abundance and possession limits.

One advisor said that some anglers use undersized scup as bait for striped bass.

MRIP data show that in recent years, recreational scup discards have exceeded recreational landings. A few advisors said the Council and Commission should work to reduce recreational discards. Other advisors said that since scup are not a highly desirable species, discards are inevitable. One advisor said recreational

discards could be reduced if all states had the same 9-inch recreational minimum size limit as federal waters (as opposed to 10-inches in many states currently). One advisor said that scup discards may vary by season, with the highest discards likely occurring in the summer when participation by private anglers (as opposed to anglers on for-hire trips) is highest.

Overall scup are abundant. The biomass is extremely high compared to "target". There is no reason that the RHL should go down or the bag limit should be reduced when the reduction of the high bag limit does virtually nothing to prevent exceeding the RHL. More so, we should look at the division between recreational and commercial as it seems we have been bending over backwards to find ways for commercial fisherman to catch their 78% of the quota while trying to clamp down on recreational landings. Scup should be open at a smaller limit with a high bag limit (i.e 50pp). The recreational sector needs something to fall back on while other species recover.

Research Recommendations

One advisor requested an analysis comparing seasonal tilapia prices to seasonal scup prices, as well as a comparison of the seasonal variation in the volume of tilapia imports compared to commercial scup landings.

Advisors discussed the possibility that regulations are focusing fishing effort on large females. Female and male scup are not known to have different growth rates or substantial differences in maturity; therefore, the scup regulations may not impact females and males differently. Some advisors recommended an analysis of changes in growth rates over time and differences in growth rates and maturity between the two sexes.

Black Sea Bass

Market and Economic Issues

One advisor said the combination of high black sea bass availability, high prices, and high demand during commercial fishery closures makes poaching and illegal sales very tempting for some commercial and recreational fishermen. Some restaurants and other buyers are willing to purchase black sea bass illegally. In some cases, recreational fishermen are illegally selling their catch. One advisor said the scale of illegal landings has increased in recent years. Some advisors said poaching will occur regardless of management measures. Others said less poaching occurs when markets have a steady supply of black sea bass.

One advisor said the price for black sea bass is lower this year because there are more black sea bass on the market. Massachusetts typically contributes a notable amount of commercial landings; however, the commercial season in Massachusetts is currently closed. The price may decrease even farther if the fishery re-opens.

General Management Issues

With the stock at all time high levels BSB needs to carry some of the fishing burden from other species in possible decline. They are abundant and frequently caught while fishing for virtually all other inshore fish in the Mid-Atlantic region (i.e fluke/sea bass, scup/sea bass, Ling/sea bass, cod/sea bass). We should keep more of these fish when encountered and reduce discard mortality as mentioned with scup above.

One advisor said some level of non-compliance (e.g., high grading, poaching) is inevitable when regulations

are unnecessarily restrictive, as has been the case with black sea bass in recent years. He argued that if a new stock assessment had been available earlier, management measures could have been updated earlier to reflect changes in stock status and non-compliance would be less of an issue.

Four advisors requested greater stability in management measures for both commercial and for-hire black sea bass fisheries. Multiple advisors agreed that management should not be so reactive to changes in data. One advisor said that if management measure are set for 3-5 years, they should only be modified in the terminal year, if at all. One advisor said constant quotas could lead to negative impacts on the stock in some years, but over the long-term the stock would not be harmed. Another advisor agreed, saying that the current system of deriving quotas and RHLs is already conservative and accounts for uncertainty, which provides some buffer against potential negative impacts in any given year from stable management measures. One advisor said market stability is also needed.

An AP proxy for the Commission said he supports stability in management measures, but also thought the measures should be adaptable. For example, the Council and Commission could allow for minor changes in annual quotas and RHLs in response to new information.

As mentioned above, the size limit should be decreased because we are in a downward spiral where fish get larger and it takes fewer fish to reach the RHL even when it is higher. This flies in the face of the premise that "if you cut back today, you will be allowed more tomorrow" because regulations get tighter with higher abundance. Because people see this now, they have lost faith in management and are more prone to totally disregard any regulation as they feel they have sacrificed size, season, and bag limit for too long. If you are allowed fewer fish when the stock is at 2.4x target then when will things liberalize? If fishermen never get any "real" relief that they can see in their buckets or time allowed to fish then this exercise of management has failed. The more disconnected that regulations get from reality the less people will be inclined to follow them. For example, there would be a lot of cars speeding on I-95 if the limit was 40 miles per hour the whole way, it is just how it is.

Commercial Management Issues

Advisors discussed the contribution of various gear types to the commercial fishery. Bottom trawls have accounted for a greater proportion of commercial landings in recent years. A few advisors said the contribution of the pot fishery has declined in recent years because trawls are more efficient and trawl-caught black sea bass can be sold for a decent price. One advisor said the few remaining pot fishermen are getting older and those who can are switching to trawls because they are not as physically demanding to operate.

Recreational Management Issues

Many advisors said the wave 5 and 6 MRIP estimates from 2016 were impossibly high and were based on flawed sampling methodology (e.g., a small number of intercepts in a small number of locations). Two advisors said it is not possible that most of the wave 6 (i.e., November and December) landings came from private boats as most private anglers do not fish at that time of year. Many advisors agreed that the Council and Commission should not adjust management measures based on data that MRIP staff, Technical Committee members, and other experts have said is inaccurate (e.g., New York wave 6 data for 2016). One advisor emphasized that restrictions based on flawed data can have major negative impacts on the livelihoods of for-hire captains and also negatively impact support businesses such as bait and tackle shops.

MRIP has continued to be wrong and continually demonstrates that numbers are more like powerball

numbers than science. I have a 100' vessel that lost 33% of my trips in November and December last year as the weather was terrible. There were a few trips I made that I probably shouldn't have as they were that rough. That being said, according to MRIP, small privates boats were out there all of the time out fishing larger boats. It just didn't happen. Even the TC cannot adequately explain how MRIP comes up with the extrapolations that they do. The TC doesn't belief it, the AP doesn't believe it, the RA doesn't believe it, the states don't believe it and the Council doesn't believe it. The Council should take a stand and not use the wave 6 numbers just because they "best available science". It seems like a coin flip would almost be as good.

Two advisors recommended eliminating the September and October closure of the recreational fishery in federal waters. One advisor said some areas, such as southern New Jersey, do not have inshore black sea bass fisheries during that time of year and the federal waters closure leaves many vessels tied to the dock. Another advisor supported eliminating that closure because it occurs during the peak of black sea bass abundance in federal waters off Rhode Island and between Montauk and Rhode Island.

One advisor said that as the recreational black sea bass season has become shorter and shorter over the past two to three years in an attempt to restrict landings to the RHL, discards have increased. For example, the fishery is now closed during certain times of year when black sea bass are available and the recreational summer flounder fishery is open. Anglers targeting summer flounder are catching black sea bass, but are forced to discard them.

One advisor said low trip limits coupled with high availability decreases angler satisfaction. In recent years, it is not unusual for every angler on for-hire trips to quickly catch their limit of black sea bass.

Three advisors supported establishing state-by-state recreational black sea bass allocations. One advisor said allocations should be based on the number of recreational fishing licenses in each state rather than MRIP data. He added that the recreational black sea bass fishery in southern New Jersey is declining and state-by-state allocations could help protect the interests of that fishery. **I believe we should have a state by state management for BSB. I'm not sure how allocations should work but regionalization has proved ineffective as NY continues policies that guaranty they will exceed the RHL and that 4 other states will have to pay for it. It also disadvantages NJ as we have a Federal fishery (85%) with smaller fish but we are lumped into a group with access to large fish in state waters. Northern states want NJ in the northern group so they can lay off their overages and southern states don't want NJ in their region as NJ lands more fish than the entire group and could negatively effect their regs. NJ should be a stand alone region as evidenced by the stock assessment and the technical committee recommendations. If not we should move to state by state conservation equivalency for all so that states take responsibility for their own overages.**

One advisor said that if regional, rather than state-by-state, allocations were established, the Council and Commission should aim for uniform bag limits, minimum fish sizes, and seasons within regions, while accounting for differences in the seasonal distribution of black sea bass in different states. For example, in Massachusetts, the black sea bass fishery has traditionally occurred in the spring, while in neighboring states the fishery tends to take place in the summer and fall. This could pose challenges for establishing a uniform set of management measures if Massachusetts were included in a region with neighboring states.

At least two advisors supported opening the wave 1 (January-February) recreational fishery. One advisor said wave 1 was very important for southern states. Two advisors said wave 1 was traditionally was dominated by for-hire boats, with very few private anglers participating. One advisor said harvest during wave 1 was low but was nonetheless very beneficial for the for-hire industry in certain areas. **Wave 1 should be open! The only**

reason it was ever closed was because there was no catch data because NMFS was too cheap to do it and the catch was deemed de minimis. It is inconsistent to say that few private anglers participate in this fishery AND that it is dominated by for-hire vessels. For-Hire vessels are the way that recreational anglers access the winter fishery. The for-hire fleet is taking out recreational anglers and would not be a "for-hire" fleet without them. Many of the participants are private recreational anglers who have put their boats away for the winter and still want to fish.

This fishery also fills the void left by other now, non-existent fisheries such as cod in the mid-Atlantic. Without the wave 1 fishery the for-hire fleet basically has nothing to fish for until the beginning of May. Please note that this fishery was rebuilt with regulations that were, at times, 25 fish/11"/365 day season. With a stock at 2.4X target there is no reason not to open this fishery. Many people I know wait all year for the winter fishery and still do not understand why it has not re-opened. We should move ahead with Tony DiLernia's proposal.

Summer Flounder

Environmental and Ecological Issues

At least one advisor said the retrospective pattern in the stock assessment needs to be investigated. Specifically, why age 0 fish are not recruiting into the population in large numbers. This advisor stated that density dependence needs to be properly considered. He believed that when SSB is low, the fish reproduce more, and vice versa.

Two advisors mentioned that the water was cold this past year, off New Jersey, Rhode Island, and New York in particular. Off New Jersey, around the Hudson Canyon, vessels were catching summer flounder and black sea bass until June, a month later than usual for this area. Fish came inshore much later than usual and in general were less available in nearshore areas than usual. He added that in nearshore areas off Monmouth County, NJ, they are seeing a lot of medium sized (14”-16”) fish with few jumbos available.

One advisor suggested that instead of managing for catch limits in pounds, managers should evaluate regulations based on the reproductive efficiency of the fish; for example, considering allowing harvest of different sized fish at different times of the year to minimize impacts to spawning populations.

One advisor said he did not see as many large summer flounder in the commercial fishery off New York last year as he has in the past, though he did see evidence of good recruitment. Another advisor described a much larger biomass of summer flounder off New York in recent years.

Market and Economic Issues

An advisor said he has never seen an economic impact study on the drastic impacts recent quota cuts are having, particularly in southern New Jersey. Staff responded that economic analyses are completed each time the quota or management measures are revised. Several advisors agreed that it would be useful to have a cumulative socioeconomic study over several years, instead of evaluating likely impacts in individual years. One suggestion was to obtain state vessel registration information and evaluate participation trends in the recreational fishery over time.

Commercial Management Issues

Several advisors agreed that commercial catch rates are primarily influenced by regulations, especially quota cuts.

One advisor expressed concern about high grading in the commercial fishery. He said vessels are catching all sizes of summer flounder, but few of the landed fish are less than 14", suggesting high grading. He thought this may be especially true for vessels in states with the option of a higher weekly limit instead of a lower daily limit. Another advisor said this is due to the minimum mesh size, not high grading.

Recreational Management Issues

Several advisors expressed frustration with very restrictive management measures. There was particular frustration with the data used to manage the recreational fishery and the negative impacts it is having on recreational businesses. These advisors believed that underages and overages of the RHL in recent years are partially due to the imprecision of the MRIP estimates.

One advisor noted that according to MRIP, the number of directed summer flounder recreational trips in recent years has exceeded the number of pounds in the RHL, which is a problem; there is too much effort relative to the current RHL for reasonable regulations.

At least six advisors raised concerns around increasing size limits and how this leads to targeting larger females in the recreational fishery. Because the fishery is managed with weight-based harvest limits, it is much easier to exceed these limits when most landed fish are large. Advisors were also concerned about high recreational discards. Several advisors said the current assumed recreational discard mortality rate (10%) may be an underestimate. **This is a major problem that I agree with and we need an age/sex model for management.**

Multiple advisors requested that the Council and Commission work to reduce discards by considering management measures such as a lower minimum fish size or a slot limit. One slot limit suggestion was to use 13-18” to reduce mortality on females. Three advisors recommended a total length allowance (i.e., keeping all fish up to a certain total number of inches), with mandatory retention. One advisor suggested allowing for varying size limits or varying slot limits at different times of years to spread fishing mortality over more sizes and year classes of fish.

One advisor requested elimination of the current regional management regime, stating that it has not been good for New Jersey. Another advisor said Northern and Southern New Jersey have very different summer flounder populations, with fish that tend to be smaller in the south. **This is a major problem that I also agree with. We need to go back to stste by state conservation equivalency and stay away from unrealistic regionalization.**

Research Recommendations

For summer flounder, advisors suggested the following research recommendations:

- Evaluate the impacts of higher fishing mortality on certain size/sex combinations compared to others, and the benefits of spreading fishing mortality more evenly among different age classes;
- Re-evaluate the 10% recreational discard mortality assumption;
- Evaluate the potential impacts of a total length limit on recreational discards;
- Evaluate cumulative economic impacts of quota cuts and management measure restrictions over

Kiley Dancy

From: flukeman@aol.com
Sent: Thursday, July 06, 2017 4:44 AM
To: Kiley Dancy
Subject: Another research thought

Kiley.
Sorry, a late entry to fluke research proposals.
Mathematically evaluate summer flounder slot options, select the most promising and then perform controlled fishing experiments to demonstrate the viability.
Thanks,
Carl

Kiley Dancy

From: captain <rbusby@optonline.net>
Sent: Wednesday, July 12, 2017 4:33 PM
To: Rootes-Murdy, Kirby
Cc: Kiley Dancy
Subject: AP Comments

Kirby,
Once again I apologize for not showing up at the last meeting. I was on a new medicine that made me dizzy and weird for a week. better now and I have quite a bit to say.
To begin NOAA's decision on Jersey being out of Compliance but being allowed to continue that sham is absolutely OUTRAGEOUS!!! Using the excuse that 19" fish are females although true is ridiculous. Aren't New Yorks 19" fish probably females too?. So far this shows that if you are out of compliance-that's OK. Just say "make nice when you release them".
Another major concern is what effect is this going to have on Regional Management next year? NY better not pay a price for NJ non-compliance !!
So what is being done about it??
My next beef after thoroughly reading Amendment 1 (all 141 pages) on Tautog which as a professor I would say is well documented and researched.BUT you can't realistically divide Long Island into 2 regions under either option. Tautog reside in large numbers in LI Sound because it is a product of glacial moraine. Sorry, but blackfish just love those rocks! The economic impact on LI Sound Party /Charter boats would be not only crippling but devastating. I think The Commission and the Council needs to revisit those plans. I have suggested to our DEC that all Party/Charter boats in the Marine District have the same regulations. Just remember "we can only catch alot of fish ,if there are alot of fish"
Thanks,
Bob Busby
NY

Kiley Dancy

From: Toni Kerns <Tkerns@asmfc.org>
Sent: Monday, July 17, 2017 9:05 AM
To: 'Crab554@aol.com'
Cc: Rootes-Murdy, Kirby; Kiley Dancy
Subject: RE: summer flounder

Good Moring Roy-

Thanks so much for your comments on summer flounder. We will include your comments to the Board and Council at their upcoming meeting in August.

Toni Kerns

From: Crab554@aol.com [mailto:Crab554@aol.com]
Sent: Saturday, July 15, 2017 1:11 PM
To: Toni Kerns <Tkerns@asmfc.org>
Subject: summer flounder

my name is Roy Diehl i am a 30 plus year commercial fisherman in NJ and i am at a loss at how far apart the councils are and the reality of the fluke population. we are at the lowest quota in history because some scientists say the population is over fished? this is impossible the effort is off 90% we are catching our meek quota in 2 weeks and this is without even trying. im not saying to fish wide open but we should be at 13 million at a minimum ,these quotas have caused the discard problem for both commercial and recreational fishermen alike..with the recreational sector being force to return all under 19 or 18 has caused a 70 to 90 to 1 retention rate because this primarily a back bay juvenile fishery, if they separate the two fisheries so that the discard problem can properly addressed then we would see very quickly that we could raise the commercial quota because the discards on these are minimal ,thank yoy
Roy Diehl
f/v donna lynn
president belford seafood co-op
belford nj 07718
732 241 1980

Summer Flounder Fishery Information Document

June 2017

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for summer flounder with an emphasis on 2016, the most recent complete fishing year.

1. Biology

Summer flounder (*Paralichthys dentatus*) 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.

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. Summer flounder are opportunistic feeders; 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.[1]

Spawning occurs during autumn and early winter, and the larvae are transported toward coastal areas by prevailing water currents. Development of post larvae and juveniles occurs primarily within bays and estuarine areas. Most fish are sexually mature by age 2. Summer flounder exhibit sexual dimorphism by size; most of the largest fish are females. Females can attain lengths over 90 cm (36 in) and weights up to 11.8 kg (26 lbs.; NEFSC 2011c). Recent NEFSC trawl survey data indicate that while female summer flounder grow faster (reaching a larger size at the same age), the sexes attain about the same maximum age (currently age 15 at 56 cm for males, and age 14 at 65 cm for females). Unsexed commercial fishery samples currently indicate a maximum age of 17 for an 85 cm fish.[2]

2. Status of the Stock

The most recent benchmark summer flounder stock assessment was completed and reviewed during the 57th Stock Assessment Workshop and Stock Assessment Review Committee (SAW/SARC 57).[3] This assessment uses a statistical catch at age model (the age-structured assessment program, or "ASAP" model). Stock assessment and peer review reports are available online at the Northeast Fisheries Science Center (NEFSC) website:
http://www.nefsc.noaa.gov/saw/reports.html.

In June 2016, the NEFSC completed a stock assessment update for summer flounder, which incorporated data through 2015 into the population model used for the previous benchmark assessment. The 2016 assessment update indicated that the summer flounder stock was not overfished, but that overfishing was occurring in 2015, relative to the biological reference points

established through the SAW/SARC 57 assessment. The model-estimated spawning stock biomass (SSB) was estimated to be 79.90 million lb (36,240 mt) in 2015, 58% of the spawning stock biomass at maximum sustainable yield, SSB_{MSY} = 137.56 million lb (62,394 mt). The fishing mortality rate (F) in 2015 was 0.390, 26% above the fishing mortality threshold reference point $F_{MSYPROXY} = F_{35\%}$ = 0.309 (Figure 1).[4]

The 2016 assessment update indicates that while catch in recent years has not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected spawning stock biomass has not been achieved. The assessment update shows a moderate internal model retrospective pattern with continued recent underestimation of F and overestimation of SSB. The assessment update indicates that the previous assessment had overestimated recruitment for several of the preceding years. These results appear to be largely driven by below average recruitment in each year from 2010-2015. The update shows that recruitment of age 0 fish was below the time series average (41 million fish at age 0; 1982-2015) each year from 2010 through 2015. Recruitment of age 0 fish in 2015 was estimated at 23 million fish.[4]

A data update, including recent estimates of commercial and recreational fishery catch and fishery independent indices, will be provided by the NEFSC in July 2017.

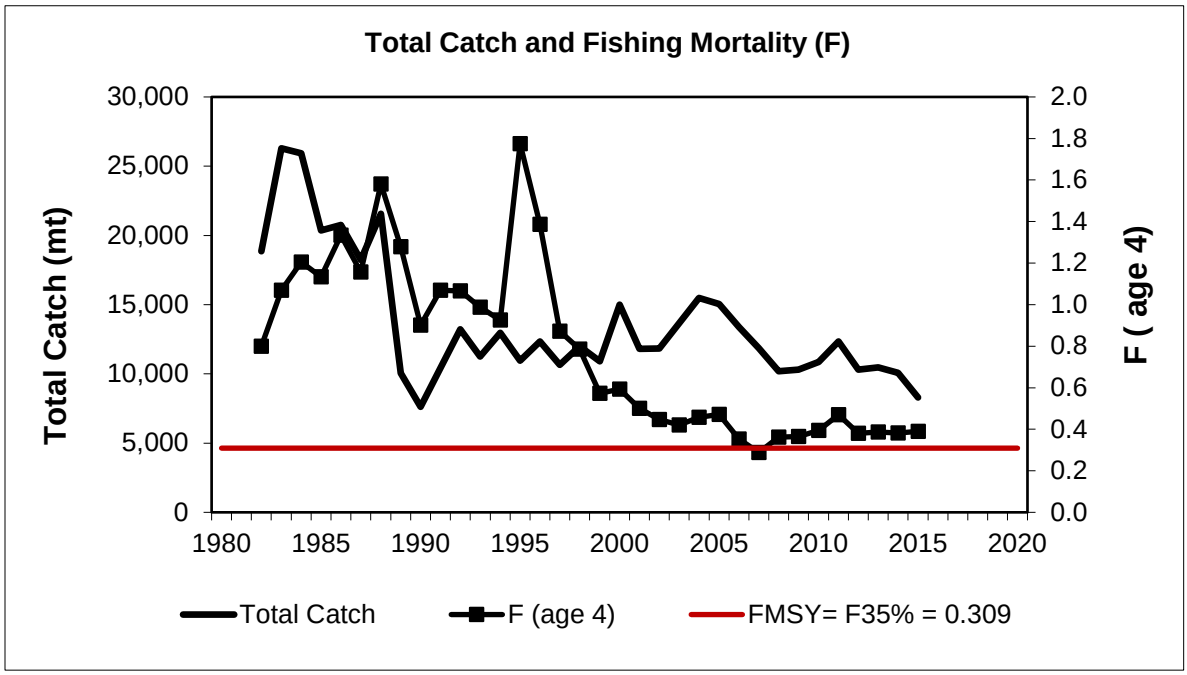

Figure 1: Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder, 1982-2015. The horizontal dashed red line is the 2013 SAW 57 fishing mortality threshold reference point proxy.[4]

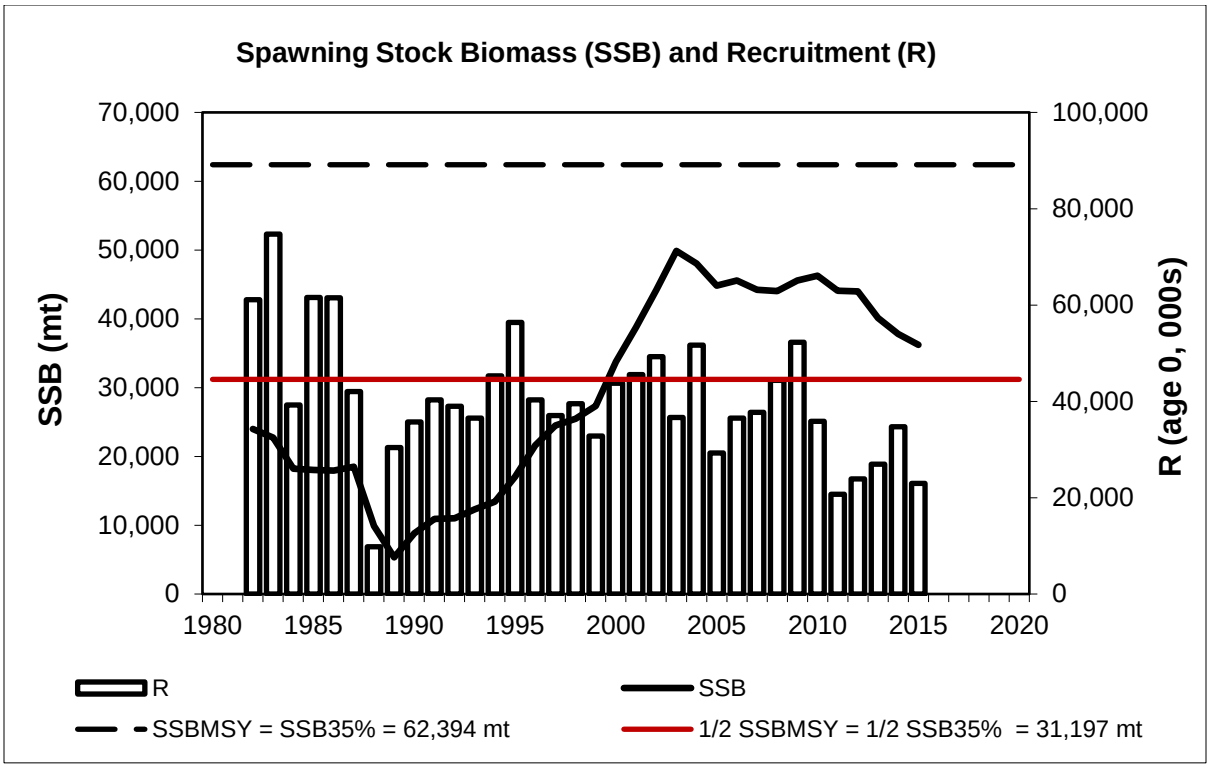

Figure 2: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year, 1982-2015. The horizontal dashed line is the 2013 SAW 57 biomass target reference point proxy, the horizontal red line is the biomass threshold reference point proxy.[4]

3. Management System and Overall Fishery Performance

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) work cooperatively to develop fishery regulations for summer flounder off the east coast of the United States. The Council and Commission work in conjunction with the National Marine Fisheries Service (NMFS), which serves 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, also known as the Exclusive Economic Zone, or EEZ).

The joint Fishery Management Plan (FMP) for summer flounder became effective in 1988, and established the management unit for summer flounder as 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 summer flounder fisheries, which currently include catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP.

There are large commercial and recreational fisheries for summer flounder. These fisheries are 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. Management also uses 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, based on an assessment update with data through 2010. Although the most recent (2016) assessment update included a revised biomass time series indicating that estimated biomass never actually reached the target biomass, current biomass estimates are still above the minimum stock size threshold that would trigger a new rebuilding plan. 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.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for summer flounder, which are then approved by the Council and Commission and submitted to NMFS for final approval and implementation. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the landings allocation prescribed in the FMP and the recent distribution of discards between the commercial and recreational fisheries. The Council first implemented recreational and commercial ACLs, with a system of overage accountability, in 2012. Both the ABC and the ACLs are catch limits (i.e., include both projected landings and discards), while the commercial quota and the recreational harvest limit are landing limits. Table 1 shows summer flounder catch and landings limits from 2007 through 2018, as well as commercial and recreational landings through 2016.

Total (commercial and recreational combined) summer flounder landings generally declined throughout the early 1980's, dropping to a time series low of 14.4 million lb in 1990, and in 2016 were about 13.99 million lb total (Figure 3).[5,6]

Table 1: Summary of catch limits, landings limits, and landings for commercial and recreational summer flounder fisheries from 2007 through 2018.

Management measures	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018[c]
ABC (mil. lb)[a]	--	--	21.50	25.5	33.95	25.58	22.34	21.94	22.57	16.26	11.30	13.23
Commercial ACL (mil. lb)[a]	--	--	--	--	--	14.00	12.11	12.87	13.34	9.43	6.57	7.70
Commercial quota (mil. lb)[b]	9.79	9.32	10.74	12.79	17.38	12.73	11.44	10.51	11.07	8.12	5.66	6.63
Commercial landings (mil lb.)	10.04	9.21	10.94	13.04	16.56	13.03	12.49	11.07	10.68	7.81	--	--
% of commercial quota landed	103%	99%	102%	102%	95%	102%	109%	105%	96%	96%	--	--
Recreational ACL (mil. lb)	--	--	--	--	--	11.58	10.23	9.07	9.44	6.84	4.72	5.53
Recreational harvest limit (mil. lb)[b]	6.68	6.21	7.16	8.59	11.58	8.49	7.63	7.01	7.38	5.42	3.77	4.42
Recreational landings (mil. lb)	9.34	8.15	6.03	5.11	5.96	6.49	7.36	7.39	4.72	6.18	--	--
% of recreational harvest limit landed	140%	131%	84%	59%	51%	76%	97%	105%	64%	114%	--	--

[a] The ABC is the annual Acceptable Biological Catch for the entire summer flounder fishery, and is divided into sector-specific Annual Catch Limits (ACLs) for the commercial and recreational fisheries. The ABC and ACLs include both landings and discards.

[b] Commercial quotas and recreational harvest limits reflect the removal of projected discards from the sector-specific ACLs. For 2006-2014, these limits are also adjusted for Research Set Aside (RSA). Quotas and harvest limits for 2015-2018 do not reflect an adjustment for RSA due to the suspension of the program in 2014.

[c] Currently implemented; subject to change based on SSC review and subsequent Council and Commission review in July/August 2017.

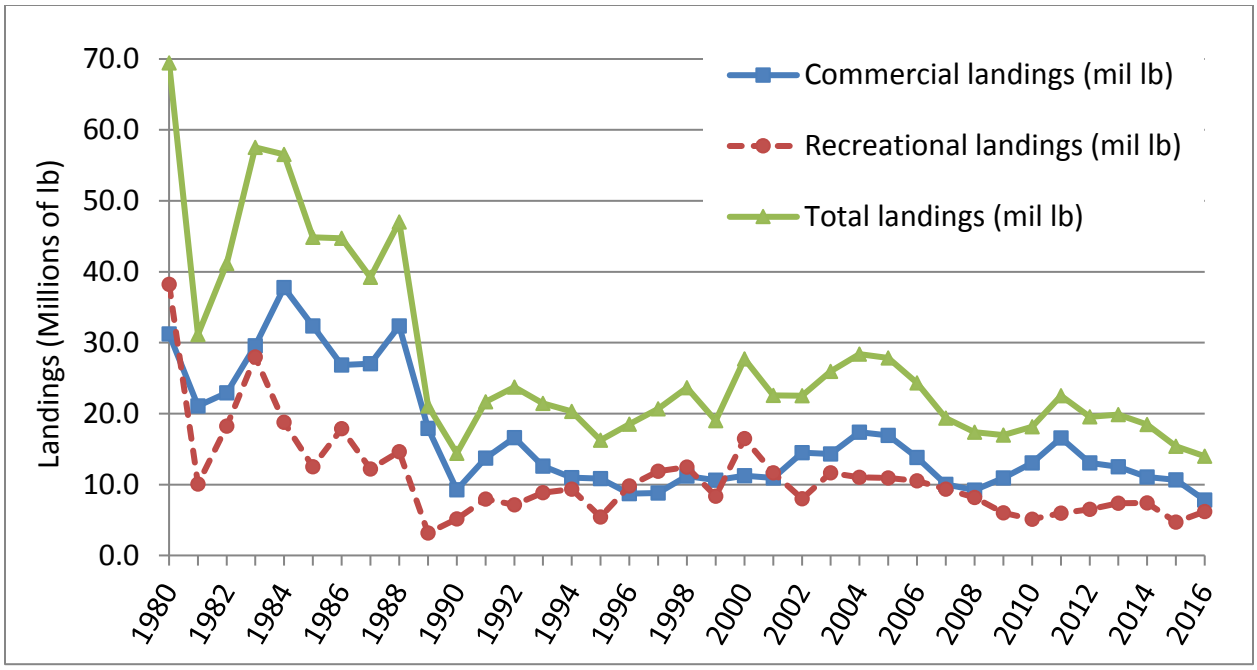

Figure 3: Commercial and recreational summer flounder landings in millions of pounds, Maine-North Carolina, 1980-2016.[5,6]

4. Commercial Summer Flounder Measures and Fishery Performance

Commercial landings of summer flounder peaked in 1984 at 37.77 million pounds, and reached a low of 7.81 million pounds in 2016 (corresponding to 96% of the commercial quota) according to preliminary data (Figure 3).[5]

In federal waters, a moratorium permit is required to fish commercially for summer flounder. Permit data for 2016 indicate that 773 vessels held commercial permits for summer flounder.[7]

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

Vessel Trip Report (VTR) data for 2016 indicate that the bulk of the summer flounder landings were taken by bottom otter trawls (95 percent). Beam trawls (other, non-shrimp) accounted for approximately 1.4% of the landings, and other gear types (e.g., scallop trawls, sink gill nets, hand lines, and scallop dredges) each accounted for 1 percent or less of landings.[8] Current regulations require a 14-inch total length minimum fish size in the commercial fishery. Trawl nets are required to have 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 from November 1-April 30 and 100 lb from May 1-October 31).

VTR data were also used to identify all NMFS statistical areas that accounted for more than 5 percent of the summer flounder commercial catch in 2016 (Table 3; Figure 4). Statistical area 616 was responsible for the highest percentage of the catch (24%; Table 3). While statistical area 539 accounted for only 4.3% of 2016 summer flounder catch, this area had the highest number of trips that caught summer flounder (2,648 trips).[8] Note that discards on VTRs are self-reported.

Table 3: Statistical areas that accounted for at least 5 percent of the total summer flounder catch in 2016, with associated number of trips.[8]

Statistical Area	Percent of 2016 Commercial Summer Flounder Catch	Number of Trips
616	24%	710
537	20%	1,862
613	16%	2,122
612	8%	1,573

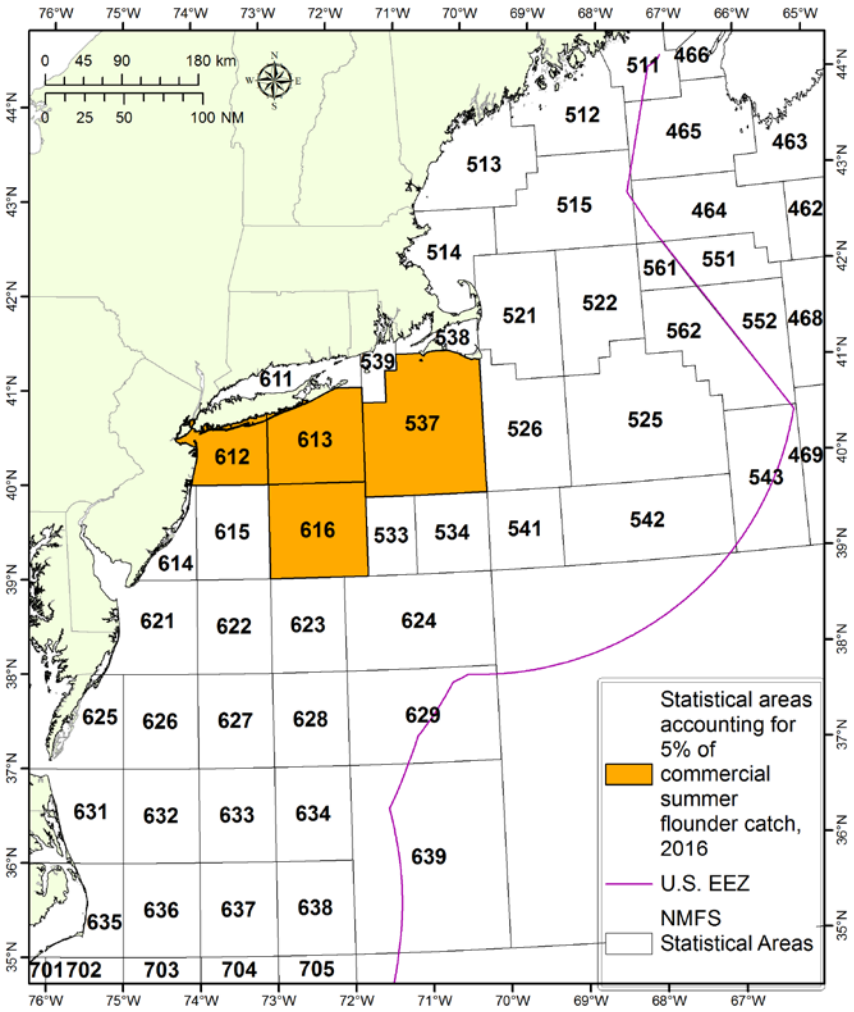

Figure 4: NMFS Statistical Areas, highlighting those that each accounted for more than 5% of the commercial summer flounder catch in 2016.[8]

For the years 1994 through 2016, NMFS dealer data indicate that summer flounder total ex-vessel revenue (adjusted to 2016 dollars to account for inflation) from Maine to North Carolina ranged from a low of $20.74 million in 1996 to a high of $33.88 million in 2004. The adjusted mean price per pound for summer flounder ranged from a low of $1.70 in 2011 (in 2016 dollars) to a high of $3.54 in 2016. In 2016, 7.81 million pounds of summer flounder were landed generating $27.65 million in total ex-vessel revenue (an average of $3.54 per pound; Figure 5).[5]

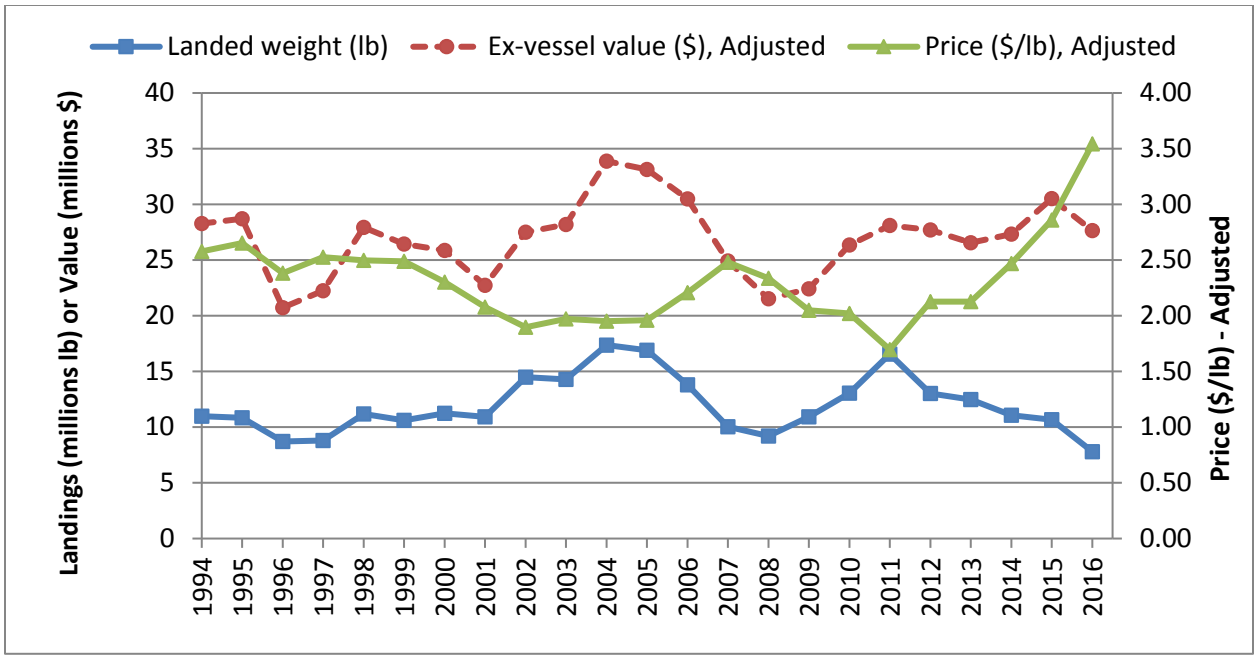

Figure 5: Landings, ex-vessel value, and price per pound for summer flounder, Maine through North Carolina, 1994-2016. Ex-vessel value and price are adjusted to real 2016 dollars.[5]

At least 100,000 lb of summer flounder were landed by commercial fishermen at each of 16 ports in seven states in 2016. These 16 ports accounted for approximately 85% of all 2016 commercial summer flounder landings. Point Judith, RI and Beaufort, NC were the leading ports in 2016 in terms of pounds of summer flounder landed, while Point Judith, RI was the leading port in terms of the number of vessels landing summer flounder (Table 4).[5] The ports and communities that are dependent on summer flounder are fully described in Amendment 13 to the FMP (available at http://www.mafmc.org/sf-s-bsb). Detailed community profiles developed by the Northeast Fisheries Science Center's Social Science Branch can be found at www.mafmc.org/communities/.

Table 4: Ports reporting at least 100,000 lb of summer flounder in 2016, and the corresponding percentage of total 2016 commercial summer flounder landings and number of vessels.[5]

Port	Summer Flounder Landings (lb)	% of 2016 commercial summer flounder landings	Number of vessels
POINT JUDITH, RI	1,141,576	15	138
BEAUFORT, NC	1,068,695	14	62
HAMPTON, VA	884,459	11	65
PT. PLEASANT, NJ	501,223	6	49
NEWPORT NEWS, VA	447,319	6	38
BELFORD, NJ	417,596	5	24
MONTAUK, NY	344,737	4	68
HOBUCKEN, NC	270,669	3	12
WANCHESE, NC	270,121	3	20
NEW BEDFORD, MA	251,381	3	65
CAPE MAY, NJ	236,361	3	58
ORIENTAL, NC	220,502	3	10
CHINCOTEAGUE, VA	205,592	3	25
ENGELHARD, NC	189,583	2	9
STONINGTON, CT	110,718	1	19
LONG BEACH/BARNEGAT LIGHT, NJ	109,493	1	21

Over 200 federally permitted dealers from Maine through North Carolina bought summer flounder in 2016. More dealers bought summer flounder in New York than in any other state (Table 5). All dealers bought approximately $27.65 million worth of summer flounder in 2016.[5]

Table 5: Dealers reporting buying summer flounder, by state in 2016.[5] C=Confidential.

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number Of Dealers	32	33	13	48	30	C	7	16	29

5. Recreational Summer Flounder Measures and Fishery Performance

There is a significant recreational fishery for summer flounder, primarily in state waters when the fish migrate inshore during the warm summer months. The Council and Commission determine annually whether to manage the recreational fishery under coastwide measures or conservation equivalency. Under conservation equivalency, state- or region- specific measures are developed through the Commission's management process and submitted to NMFS. The combined state or regional measures must achieve the same level of conservation as would a set of coastwide measures developed to adhere to the overall recreational harvest limit. 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. Anglers fishing in federal waters are then subject to the measures of the state in which they land summer flounder.

The recreational fishery has been managed using conservation equivalency each year since 2001. From 2001 through 2013, measures were developed under state-by-state conservation equivalency. Since 2014, a regional approach has been used, under which the states within each region must have identical size limits, possession limits, and season length. The 2017 regional conservation equivalency measures are given in Table 6.

Table 6: Summer flounder recreational fishing measures in 2017, by state, under regional conservation equivalency. 2017 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut and New York, 4) New Jersey, 5) Delaware, Maryland, The Potomac River Fisheries Commission, and Virginia, and 6) North Carolina.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	17	4 fish	May 22-September 23
Rhode Island	19	4 fish	May 1-December 31
Connecticut	19	3 fish	May 17- September 21
CT Shore Program (46 designed shore sites)	17		
New York	19	3 fish	May 17- September 21
New Jersey[a]	18	3 fish	May 25-September 5
NJ Shore program site (Island Beach State Park)[a]	16	2 fish	
New Jersey/Delaware Bay COLREGS[b]	17	3fish	
Delaware	17	4 fish	January 1- December 31
Maryland	17	4 fish	January 1- December 31
PRFC	17	4 fish	January 1- December 31
Virginia	17	4 fish	January 1- December 31
North Carolina	15	4 fish	January 1- December 31

[a] To be consistent with the provisions of the Commission's Addendum XXVIII (approved February 2017), New Jersey would need to implement, east of the COLREGS line at Cape May, NJ, management measures consistent with the northern region of Connecticut – New York. Note that at the time of this memo writing (as of May 30, 2017), New Jersey's implemented measures are as shown in this table and are not consistent with the provisions of Addendum XXVIII.

[b] To be consistent with the provisions of Addendum XXVIII, New Jersey would need to implement, west of the COLREGS line at Cape May, NJ inside Delaware Bay, an 18 inch size limit (one inch lower than the northern NJ measures and one inch higher than the DE-VA measures), and the same possession limit), and season length as the northern region of Connecticut – New York. As noted above, New Jersey's currently implemented measures are not consistent with the provisions of Addendum XXVIII.

Recreational data for years 2004 and later are available from the Marine Recreational Information Program (MRIP). For years prior to 2004, recreational data were generated by the Marine Recreational Fishery Statistics Survey (MRFSS). Recreational catch and landings for summer flounder peaked in 1983 with 32.11 million fish caught and 21.00 million fish landed. Catch reached a low in 1989 with 2.69 million fish caught, while landings reached a low in 2010 with 1.50 million fish landed (Table 7).[6]

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2016, there were 763 party and charter vessels that held summer flounder federal for-hire permits.[7] Many of these vessels also hold recreational permits for scup and black sea bass.

Table 7: Recreational summer flounder landings data from the NMFS recreational statistics databases, Maine through North Carolina, 1981-2016.[6]

Year	Catch (millions of fish)	Landings (millions of fish)	Landings (millions of pounds)
1981	13.58	9.57	10.08
1982	23.56	15.47	18.23
1983	32.06	21.00	27.97
1984	29.78	17.48	18.76
1985	13.53	11.07	12.49
1986	25.29	11.62	17.86
1987	21.02	7.86	12.17
1988	17.17	9.96	14.62
1989	2.68	1.72	3.16
1990	9.10	3.79	5.13
1991	16.07	6.07	7.96
1992	11.91	5.00	7.15
1993	22.90	6.49	8.83
1994	17.73	6.70	9.33
1995	16.31	3.33	5.42
1996	18.99	7.00	9.82
1997	20.03	7.17	11.87
1998	22.09	6.98	12.48
1999	21.38	4.11	8.37
2000	25.38	7.80	16.47
2001	28.19	5.29	11.64
2002	16.67	3.26	8.01
2003	20.53	4.56	11.64
2004	20.34	4.32	11.02
2005	25.81	4.03	10.92
2006	21.40	3.95	10.50
2007	20.73	3.11	9.34
2008	22.90	2.35	8.15
2009	24.09	1.81	6.03
2010	23.72	1.50	5.11
2011	21.56	1.84	5.96
2012	16.53	2.27	6.49
2013	16.11	2.52	7.36
2014	18.97	2.46	7.39
2015	12.15	1.62	4.72
2016	14.17	2.03	6.18

On average, an estimated 87 percent of the landings (in numbers of fish) occurred in state waters over the past ten years, and about 81 percent of landings came from state waters in 2016 (Table 8). The majority of summer flounder were landed in New York and New Jersey in 2016 (Table 9).[6]

Table 8: Estimated percentage of summer flounder recreational landings in state vs. federal waters, Maine through North Carolina, 2007-2016.[6]

Year	State <= 3 mi	EEZ > 3 mi
2007	88.91%	11.09%
2008	96.49%	3.51%
2009	90.93%	9.07%
2010	92.40%	7.60%
2011	95.31%	4.69%
2012	87.76%	12.24%
2013	76.97%	23.03%
2014	77.08%	22.92%
2015	80.95%	19.05%
2016	80.91%	19.09%
Avg. 2007 - 2016	**86.5 %**	**13.5%**
Avg. 2014 - 2016	**79.7%**	**20.3%**

Table 9: State contribution (as a percentage) to total recreational landings of summer flounder (in numbers of fish), from Maine through North Carolina, 2015 and 2016.[6]

State	2015	2016
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	4.9%	2.7%
Rhode Island	10.1%	4.3%
Connecticut	5.7%	10.7%
New York	30.3%	35.1%
New Jersey	30.7%	37.2%
Delaware	3.2%	4.4%
Maryland	2.7%	1.1%
Virginia	9.8%	3.5%
North Carolina	2.5%	0.9%
Total	**100.0%**	**100.0%**

MRIP data indicate that about 90% of recreational summer flounder landings in 2016 were caught by anglers fishing on private or rental boats, about 7% from anglers aboard party or charter boats, and 3% from shore (Table 10).[6]

Table 10: The number of summer flounder landed by recreational fishing mode, Maine through North Carolina, 1981-2016.[6]

Year	Shore (numbers of fish)	Party/Charter (numbers of fish)	Private/Rental (numbers of fish)
1981	3,145,683	1,362,252	5,058,639
1982	1,120,521	5,936,006	8,416,173
1983	3,963,680	3,574,229	13,458,398
1984	1,355,595	2,495,733	13,623,843
1985	786,185	1,152,247	9,127,759
1986	1,237,033	1,608,907	8,774,921
1987	406,095	1,150,095	6,308,572
1988	945,864	1,134,353	7,879,442
1989	180,268	141,320	1,395,177
1990	261,898	413,240	3,118,447
1991	565,404	597,610	4,904,637
1992	275,474	375,245	4,351,387
1993	342,225	1,013,464	5,138,352
1994	447,184	836,362	5,419,145
1995	241,906	267,348	2,816,460
1996	206,927	659,876	6,130,182
1997	255,066	930,633	5,981,121
1998	316,314	360,777	6,302,004
1999	213,447	300,807	3,592,741
2000	569,612	648,755	6,582,707
2001	226,996	329,705	4,736,910
2002	154,958	261,554	2,845,647
2003	203,717	389,142	3,965,811
2004	200,368	463,776	3,652,354
2005	104,295	498,614	3,424,557
2006	154,414	315,935	3,479,934
2007	98,418	499,160	2,510,000
2008	79,339	171,951	2,098,583
2009	62,691	176,997	1,566,490
2010	59,812	160,109	1,281,546
2011	34,849	137,787	1,667,240
2012	106,344	169,473	1,996,404
2013	132,804	271,060	2,117,502
2014	79,918	439,550	1,938,535
2015	47,680	272,227	1,301,573
2016	62,383	144,423	1,820,964
% of Total, 1981-2016	9%	14%	78%
% of Total, 2012-2016	4%	12%	84%

6. References

[1] Packer, D. B, S. J. Griesbach, P. L. Berrien, C. A. Zetlin, D. L. Johnson, and W.W. Morse. 1999. Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus,* Life History and Habitat Characteristics. NOAA Technical Memorandum NMFS-NE-151.

[2] Mark Terceiro, NEFSC, personal communication, January 2017.

[3] 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. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at: http://nefsc.noaa.gov/publications/.

[4] Terceiro M. 2016. Stock Assessment of Summer Flounder for 2016. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 16-15; 117 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at http://www.nefsc.noaa.gov/publications/.

[5] Unpublished NMFS dealer data as of May 22, 2017.

[6] Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed May 12, 2017. Available at: http://www.st.nmfs.noaa.gov/recreational-fisheries/index.

[7] Unpublished NMFS permit data as of January 31, 2017.

[8] Unpublished NMFS Vessel Trip Report (VTR) data as of May 22, 2017.