



Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201, Dover, DE 19901-3910
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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: July 27, 2016
To: Council
From: Kiley Dancy, Staff
Subject: Review of Summer Flounder Specifications for 2017-2018

The following materials are provided for the Council and Board's review of previously implemented 2017-2018 summer flounder specifications. The July 29 Advisory Panel webinar summary, once finalized, will be posted to the Council's website as a supplemental document for the August briefing materials.

- 1) Monitoring Committee recommendations for summer flounder
- 2) July 2016 Scientific and Statistical Committee meeting report
- 3) Staff memo on 2017-2018 summer flounder specifications
- 4) Summer Flounder Assessment Update for 2016
- 5) Advisory Panel Fishery Performance Report for summer flounder, scup, and black sea bass and additional written comments for all three species received through July 26, 2016
- 6) 2016 Summer Flounder Fishery Information Document



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee
Webinar Meeting Summary – Summer Flounder
July 25, 2016**

Monitoring Committee Attendees: Mike Bednarski (MA DMF), Jason McNamee (RI DFW), Peter Clarke (NJ F&W), Greg Wojcik (CT DEEP), Katie May Laumann (VMRC), Steve Doctor (MD DNR), Rich Wong (DE DFW), John Maniscalco (NY DEC), T.D. VanMiddlesworth (NC DMF), Kiley Dancy (Council staff), Julia Beaty (Council staff), Kirby Rootes-Murdy (ASMFC staff), Wilson Laney (USFW)

Additional Attendees: Liz Scheimer (NMFS GARFO), Nichola Meserve (MA DMF), Douglas Christel (MA DMF), Greg DiDomenico (Garden State Seafood Association), Katie Almeida (Town Dock), Mike Ruccio (NMFS GARFO)

General Comments

The Monitoring Committee does not currently have any formal control rules for the recommendation of Annual Catch Targets (ACTs). The Committee 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.

The Monitoring Committee will continue to pursue additional analyses requested by the Council and Board in December 2015 related to the review of commercial measures conducted last fall (i.e., review of the feasibility of a common minimum mesh size, summarization of past gear studies, and scup-specific measures as discussed in the scup summary).

Summer Flounder Comments and Recommendations

The Monitoring Committee shares the SSC's concerns regarding declining stock status. Based on the revised SSC recommendations for Acceptable Biological Catch (ABC), the Monitoring Committee recommends corresponding revised sector-specific Annual Catch Limits (ACLs) and ACTs, as presented in Table 1.

The Monitoring Committee recommends no reduction from the commercial ACLs to the ACTs in 2017-2018 to address management uncertainty. 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 Committee also recommends no reduction from the recreational ACLs to the recreational ACTs for 2017-2018. The recreational fishery has performed relatively well relative to the harvest limits for the past few years. However, the Monitoring Committee and Technical Committee will need to carefully consider the potential effects of proposed decreases in landings limits for 2017-2018, especially given the lack of in-season closure authority for the recreational fishery. The Monitoring Committee will consider management uncertainty explicitly when recommending recreational management measures in the fall of each year.

The Committee 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 2016 summer flounder catch and landings limits, and SSC and Monitoring Committee recommendations for revised 2017-2018 catch and landings limits. Numbers may not add precisely due to unit conversions and rounding.

Management Measure	2016 (current)		2017		2018		Basis for 2016-2018 Recs.
	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	<i>mil lb.</i>	<i>mt</i>	
OFL	18.06	8,194	16.76	7,600	18.69	8,476	Stock assessment projections
ABC	16.26	7,375	11.30	5,125	13.23	5,999	Stock assessment projections/SSC recommendation ¹
ABC Landings Portion	13.54	6,142	9.43	4,278	11.05	5,010	Stock assessment projections
ABC Discards Portion	2.72	1,233	1.87	847	2.18	989	Stock assessment projections
Commercial ACL	9.42	4,275	6.57	2,982	7.70	3,491	60% of ABC landings portion (per FMP allocation) + 49% of ABC discards portion
Commercial ACT	9.42	4,275	6.57	2,982	7.70	3,491	Monitoring Committee recommendation: no deduction from ACL for management uncertainty
Projected Comm. Discards	1.30	590	0.92	415	1.07	485	For 2016: 48% of ABC discards portion, based on 2012-2014 average % discards by sector For 2017-2018: 49% of ABC discards portion, based on 2013-2015 average % discards by sector
Commercial Quota	8.12	3,685	5.66	2,567	6.63	3,006	Commercial ACT, less projected commercial discards
Recreational ACL	6.84	3,100	4.72	2,143	5.53	2,508	40% of ABC landings portion (per FMP allocation) + 51% of ABC discards portion
Recreational ACT	6.84	3,100	4.72	2,143	5.53	2,508	Monitoring Committee rec.; no deduction from ACL for management uncertainty
Projected Rec. Discards	1.42	643	0.95	432	1.11	504	For 2016: 52% of ABC discards portion, based on 2012-2014 average % discards by sector For 2017-2018: 51% of ABC discards portion, based on 2013-2015 average % discards by sector
Recreational Harvest Limit	5.42	2,457	3.77	1,711	4.42	2,004	Recreational ACT, less projected recreational discards

¹ In 2015, the SSC deviated from the Council's ABC control rule to recommend ABCs over the 2016-2018 period that phased in the required reductions in catch. This was done at the request of the Council to address socio-economic concerns over the magnitude of the reduction in the fishery catch in 2016 that would potentially be destabilizing. In July 2016, the SSC recommended revised 2017-2018 ABCs that reverted to the typical Council risk policy, due to concerns about the status of the summer flounder stock, including the potential for summer flounder to become overfished in the near future.



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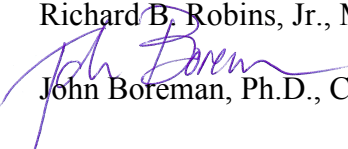
Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: 25 July 2016

TO: Richard B. Robins, Jr., MAFMC Chairman

FROM:  John Boreman, Ph.D., Chair, MAFMC Scientific and Statistical Committee

SUBJECT: Report of the July 2016 SSC Meeting

The SSC met in Baltimore, MD, on 21-22 July 2016 for the main purpose of reviewing multi-year ABC recommendations for Summer Flounder, Bluefish, Scup, and Black Sea Bass, and continuing discussion of criteria for assigning coefficients of variation (CVs) for overfishing limits (OFLs). The final meeting agenda is attached (Attachment 1).

A total of 13 SSC members were in attendance on July 20th and 11 on July 21st, which constituted a quorum for both days (Attachment 2). Also in attendance were scientists from the NEFSC (NMFS Northeast Fisheries Science Center) in person and by phone, Council members, Council staff, a representative from ASMFC, and staff from NMFS HQ. Documents cited in this report can be accessed via the MAFMC SSC website (<http://www.mafmc.org/ssc-meetings/2016/july-20-21>).

Summer Flounder

Mark Terceiro (NEFSC) and Kiley Dancy (MAFMC) reviewed the updated assessment and fishery performance report for Summer Flounder. Based on the information contained in those reports, the SSC decided that it could not endorse the ABC recommendations for fishing years 2017 and 2018 that were developed at the July 2015 meeting. The principal reasons for the lack of endorsement (as detailed below) are that the biological reference points have continued to decline, stock projections have been consistently over-optimistic, and the stock biomass is dangerously close to being overfished, which could happen as early as next year if increased efforts to curb fishing mortality are not undertaken. As such, the SSC followed the terms of reference provided by the Council should that decision by the SSC be made. The terms of reference (in italics) and the SSC's responses are provided below.

For Summer Flounder, review the Council's existing multi-year specifications for 2017 and 2018 and provide updated ABC recommendations, if necessary to prevent overfishing, for 2017 and 2018. If changes are warranted, the SSC will provide a written report that identifies the following for fishing years 2017 and 2018.

1) *The level of uncertainty that the SSC deems most appropriate for the stock assessment information*

upon which the ABC determination was made, using the criteria listed in the Omnibus Amendment.

The assessment model framework has not changed since the previous benchmark (SAW/SARC 57). Accordingly, the SSC maintained its determination that the assessment should be considered an “SSC-modified OFL” status.

2) If possible, the level of catch (in weight) associated with the overfishing limit (OFL) based on the maximum fishing mortality rate threshold or, if appropriate, an OFL proxy.

The 2016 update of the assessment indicates an OFL for 2017 of **7,600 mt (= 16.76 million pounds)**.

The 2018 OFL, assuming fishing at F_{MSY} ($F=0.309$), is anticipated to be **7,946 mt (= 17.52 million pounds)**. The SSC notes that stock production estimates have been consistently over-optimistic and thus the SSC anticipates the increase in OFL may not be realized.

3) The level of catch (in weight) and the probability of overfishing associated with the acceptable biological catch (ABC) for the stock.

In 2015 the Council requested the SSC provide multi-year ABC specifications that phased in its recommended ABCs over a three-year period; this was a deviation from the Council’s risk policy that was intended to mitigate for economic and social impacts.

Under the SSC’s 2015 specification, the SSC intended the ABC for 2017 to be 80% of the OFL. However, using the revised OFL derived from the updated assessment, the original ABC for 2017 (7,193 mt) would be 95% of the revised OFL and represent a policy associated with a risk of overfishing (P*) of 46%.

The revised understanding of the stock status produced by the assessment update indicates reductions in the estimates of SSB, and increases in the estimates of annual Fs. In light of these trends, the SSC expresses the following concerns:

- 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.

Accordingly, the SSC recommends against implementing the 2017 and 2018 ABCs it recommended last year as a part of a three-year phased approach to specifications. In addition to the concerns listed above, the SSC notes that this is the second year in which the assessment has indicated deterioration in stock status, and that implementation of previous ABCs calculated on the full buffer for scientific uncertainty did not avoid overfishing. The SSC concluded that the patterns in survey and recruitment indices indicate a longer-term decline in stock performance and require additional caution. The SSC further

notes that the stock is currently estimated to be at 58% of SSB_{MSY} ¹ and also that recent recruitment levels have been below average. Thus, the SSC concludes there is a risk of the stock becoming overfished in the near future if the phased-in approach, which implements a reduced buffer for scientific uncertainty, is continued.

The SSC recommends a return to its standard approach for implementing the Council's risk policy in estimating ABC. Assuming an OFL with a lognormal distribution having a 60% CV, and a stock status lower than B_{MSY} , the Council's policy is to use a $P^* = 0.239$. This yields an ABC for 2017 of **5,125 mt (= 11.30 million pounds)**. Application of this standard procedure for 2018 yields a $P^* = 0.267$ and an ABC of **5,999 mt (= 13.23 million pounds)**.

4) *The most significant sources of scientific uncertainty associated with determination of 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.

5) *Ecosystem considerations accounted for in the stock assessment information presented, and any additional ecosystem considerations that the SSC took into account in selecting the ABC, including the basis for those additional considerations.*

No specific, additional ecosystem information was provided to the SSC for consideration in forming its ABC recommendation.

6) *Prioritized research or monitoring recommendations that would reduce the scientific uncertainty in the ABC recommendation and/or improve the assessment information level.*

- 1) Determining and evaluating the sources of the over-optimistic stock projections.
- 2) Socio-economic research on the objectives and performance measures for the fishery to understand the balance of costs and benefits of ABC specifications.
- 3) The SSC recognizes the research recommendations provided in the last benchmark assessment report. Also, the SSC recommends research is conducted to:
 - Evaluate the causes of decreased recruitment and changes in recruitment per spawner in recent years;
 - Evaluate uncertainties in biomass to determine potential modifications to OFL CV employed;

¹ This estimate of the level of SSB_{MSY} does not incorporate the retrospective correction, which would lower the percentage of SSB_{MSY} even further

- Evaluate fully the sex- and size distribution of landed and discarded fish, by sex, in the Summer Flounder fisheries;
- Evaluate past and possible future changes to size regulations on retention and selectivity in stock assessments and projections; and
- Incorporate sex-specific differences in size at age into the stock assessment.

7) *The materials considered in reaching its recommendations.*

The following documents were used by the SSC to develop the revised ABC recommendations. All of these documents can be accessed through the SSC meeting website (<http://www.mafmc.org/ssc-meetings/2016/july-20-21>).

- Summer Flounder MAFMC Staff Memo: Specifications Review for 2017-2018
- Summer Flounder NEFSC Assessment Update for 2016
 - ABC Projection Options (Version 1)
 - ABC Projection Options (Version 2 with MAFMC staff recommendation)
 - ABC Options Comparison (Version 2)
- Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports and Additional Advisor Comments (as of 7/8/16)
- Summer Flounder Fishery Information Document

8) *A certification that the recommendations provided by the SSC represent the best scientific information available.*

To the best of the SSC's knowledge, these recommendations are based on the best available scientific information.

Bluefish

Mark Terceiro presented the NEFSC's data update and Jose Montañez (MAFMC) reviewed the regulatory history and the latest fishery performance report for Bluefish. The data update included commercial and recreational landings and discards, and updated indices for seven fishery independent surveys and one fishery dependent survey. The stock biomass appears to be stable, and the fishing mortality rate is declining and is below the F_{msy} proxy ($F_{35\%}$).

The SSC questioned why the commercial quota was lowered for 2016 relative to the information the SSC reviewed in 2015. The response was that this was due to an update on landings that became available after SSC deliberations in 2015, which resulted in slightly different quota calculations due to the inability to transfer some recreational quota to the commercial sector. There was also a general concern raised by the SSC that survey indices appear to be declining across the board and catch continues to decline. There was also a suggestion to aggregate all the current surveys into a composite index of abundance. These concerns notwithstanding, the SSC found no compelling evidence to change its ABC recommendations for bluefish of **9,363 mt (20.64 million pounds)** for 2017 and **9,895 mt (21.81 million pounds)** for 2018. The SSC will review the most recent information available again in 2017 to determine if changes to the recommended ABC are warranted.

Scup

As he did for Bluefish, Mark Terceiro presented the NEFSC's data update for Scup and Julia Beatty (MAFMC) followed with a summary of the regulatory history and the latest fishery performance report. The data update included the commercial and recreational fisheries catch, landings, and discard estimates, and NEFSC and state survey indices through 2015. Scup biomass indices continue to be high, the relative exploitation ratios are remaining low, and there appears to be a strong 2015 year class.

The SSC noted that, although the stock appears to still be large (all stock metrics appear to be generally positive), the ABC projections are declining; the Council should consider requesting an assessment update since it appears that yields could be increased. The SSC asked if any states are catching or exceeding their quotas – there was no information available to answer this question directly, but the scup fishery has state-by-state quotas in the summer only, so the fishery is only constrained regionally for a short window of the overall fishery. The SSC also had some concern about the ecological impact of the large scup stock on benthic communities, but information was not available to address this question. Given the information presented, the SSC found no compelling reason to change its ABC recommendations of **12,881 mt (28.40 million pounds)** for 2017 and **12,270 mt (27.05 million pounds)** for 2018.

Black Sea Bass

Mark Terceiro presented the NEFSC's data update for Black Sea Bass, which included catch and survey information through 2015. Kiley Dancy then followed with a summary of the regulatory history and the latest fishery performance report. A benchmark assessment is currently underway for Black Sea Bass with a SARC review slated for 29 November – 2 December 2016. The SSC will meet in early 2017 to review and potentially revise the 2017 ABC recommendation based on the results of the assessment, assuming the assessment passes SARC muster. Due to the continued lack of an acceptable estimate of the OFL, and the fact that a benchmark assessment is underway and on track, the SSC decided at this point in time not to change its ABC recommendation for 2017 of **3,024 mt (6.67 million pounds)**.

The SSC expressed continued concern about the catch overages, illegal catches, and under-reporting in the recreational fishery for Black Sea Bass. The fishery performance report prepared by the advisory panel suggests this situation may be getting worse.

Criteria for Setting OFL CVs

The SSC discussed next steps for the OFL CV subcommittee. A high priority topic from the last meeting was exploring the use of projection performance information to inform an appropriate OFL CV. The SSC appreciated the projection performance information presented for the 2016 Summer Flounder assessment update, and would like to compare similar information for other stocks; projection performance information for Scup is in progress and could be reviewed in the future. The main question is how to translate projection performance into an OFL CV for use in the MAFMC control rule.

The SSC held a broader discussion of the impacts of uncertainty due not just to model structure but also due to input data series (in particular recreational catch and discard). Separate consideration of these

uncertainty types (bias vs. variance) may be required to capture uncertainty in OFL appropriately. All agreed that convening a workshop to address assessment uncertainty and options for estimating OFL CV with NEFSC assessment staff would be useful.

Between now and the September 2016 SSC meeting, the subcommittee will work to:

1. Revise the current OFL CV white paper with the examples of projection performance from the Summer Flounder assessment update.
2. Further revise the draft during a subcommittee call in August 2016.
3. Distribute revised white paper for review at the Sept SSC meeting.
4. Develop SSC/NEFSC workshop goals, objectives, and outputs (draft for Sept SSC).
5. Consider whether a workshop can be scheduled prior to the end of calendar 2016.
6. Consider broader participation in the workshop (e.g., Rick Methot, Patrick Lynch, NEFMC SSC)

cc: SSC Members, Lee Anderson, Chris Moore, Rich Seagraves, José Montañez, Kiley Dancy, Julia Beatty, Mark Terceiro, Tony Wood, Gary Shepherd, Kirby Rootes-Murdy

Mid-Atlantic Fishery Management Council
Scientific and Statistical Committee Meeting
21-22 July 2016

Final Agenda

Wednesday July 21, 2016

- 10:00 a.m. Recommend Summer Flounder ABC specifications (2017-2018)
- 12:00 p.m. Lunch
- 1:30 p.m. Summer Flounder ABC cont.
- 2:30 a.m. Review 2017 Atlantic Bluefish specifications
- 3:30 p.m. Review multi-year ABC specifications for Scup
- 5:00 p.m. Adjourn

Thursday July 22, 2016

- 8:30 a.m. Review 2017 Black Sea Bass specifications
- 10:00 a.m. Report of OFL CV Subcommittee
- 11:00 a.m. Other business
- 12:00 p.m. Adjourn

MAFMC Scientific and Statistical Committee
20-21 July 2016 Meeting
Baltimore, MD

<u>Name</u>	<u>Affiliation</u>
<i>SSC Members in Attendance:</i>	
John Boreman (SSC Chairman)	NC State University
Tom Miller (SSC Vice-Chair)	University of Maryland - CBL
David Tomberlin	NMFS Office of Science and Technology
Mark Holliday	NMFS (Retired)
Mike Frisk	Stony Brook University
Sarah Gaichas	NMFS Northeast Fisheries Science Center
Ed Houde	University of Maryland – CBL
Wendy Gabriel	NMFS Northeast Fisheries Science Center
Olaf Jensen (7/20 only)	Rutgers University
Paul Rago	NMFS (retired)
Yan Jaio	VA Tech
Brian Rothschild	UMass Dartmouth
Cynthia Jones (7/20 only)	Old Dominion University
<i>Others in attendance:</i>	
Rick Robins	MAFMC chair
Lee Anderson	MAFMC vice-chair
Kirby Rootes-Murdy (7/20 in person, 7/21 by phone)	ASMFC
Rich Seagraves	MAFMC staff
José Montañez (7/20 only)	MAFMC staff
Kiley Dancy	MAFMC staff
Julia Beatty (7/20 only)	MAFMC staff
Mark Terceiro	NMFS Northeast Fisheries Science Center
Tony Wood (by phone, 7/20 only)	NMFS Northeast Fisheries Science Center
Gary Shepherd (by phone, 7/21 only)	NMFS Northeast Fisheries Science Center
John Maniscalco (by phone, 7/20 only)	NYDEC
Ray Marquez (7/20 only)	NMFS Office of Sustainable Fisheries



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Richard B. Robins, Jr., Chairman | Lee G. Anderson, Vice Chairman

Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

DATE: July 11, 2016

TO: Chris Moore, Executive Director

FROM: Kiley Dancy and Julia Beaty, Staff

SUBJECT: Review of Summer Flounder Management Measures for 2017-2018

Executive Summary

In 2015, three-year specifications were implemented for summer flounder, establishing catch and landings limits for the 2016-2018 fishing years. The measures currently implemented for 2017 include an Acceptable Biological Catch (ABC) of 15.86 million lb or 7,193 mt, and for 2018 include an ABC of 15.68 million lb or 7,111 mt. These ABCs 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 June 2016 stock assessment update and projections for summer flounder, the SSC may determine that revised ABCs are necessary. 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 2017-2018 Annual Catch Targets (ACTs) and commercial management measures.

Based on the results of the stock assessment update completed in June 2016, 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 $F_{MSYPROXY} = F_{35\%} = 0.309$.

Last year, the SSC recommended multi-year specifications based on biomass projections resulting from a 2015 assessment update. If the Council's typical risk policy had been applied to these projections, a reduction of approximately 45% would be required between the 2015 and 2016 ABC. Because this would have caused severe social and economic impacts that would be potentially destabilizing to the fishery, the Council requested that the SSC deviate from the typical risk policy and apply a three-year phase in of any required reduction.

The approach applied in 2015, to derive 2016-2018 ABCs, involves a reduced scientific uncertainty buffer between the overfishing limit (OFL) and ABC in years 1 and 2 (2016 and 2017) in order to address economic and social concerns. The buffer between the OFL and ABC that would have been required under the SSC's typical application of the control rule (30% in this case) was proposed to be expanded by 1/3 of the total buffer each year, for three years, starting in 2016. Instead of applying the full 30% buffer

from the OFL to ABC to address scientific uncertainty in 2016, the SSC adopted an approach that applied a 10% buffer from the OFL in 2016, 20% in 2017, and 30% in 2018 (Table 1). The ABC in each year is less than the OFL, and the probability of overfishing less than 50 percent. The resulting 2016-2018 SSC-recommended catch and landings limits, which were adopted by the Council and Board 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 2016-2018.

Management Measure	2016		2017		2018		Basis
	mil lb.	mt	mil lb.	mt	mil lb.	mt	
OFL	18.06	8,194	19.82	8,991	22.40	10,159	Stock assessment projections
ABC	16.26	7,375	15.86	7,193	15.68	7,111	SSC Recommendations (July 2015)
ABC % of OFL	90%		80%		70%		
ABC Landings Portion	13.54	6,142	13.19	5,983	13.16	5,968	Projections
ABC Discards Portion	2.72	1,233	2.67	1,210	2.52	1,143	Projections
Commercial ACL	9.42	4,275	9.19	4,168	9.10	4,127	60% of ABC landings portion (per FMP) + 48% of ABC discards portion
Commercial ACT	9.42	4,275	9.19	4,168	9.10	4,127	Commercial ACL, less deduction for management uncertainty
Projected Commercial Discards	1.30	590	1.28	579	1.21	547	48% of ABC discards portion, based on 2012-2014 average % discards by sector
Commercial Quota	8.12	3,685	7.91	3,590	7.89	3,581	Commercial ACT, less discards
Recreational ACL	6.83	3,100	6.67	3,025	6.56	2,984	40% of ABC landings portion (per FMP) + 52% of ABC discards portion
Recreational ACT	6.83	3,100	6.67	3,025	6.56	2,984	Recreational ACL, less deduction for management uncertainty
Projected Recreational Discards	1.42	643	1.39	631	1.32	596	52% of ABC discards portion, based on 2012-2014 average % discards by sector
Recreational Harvest Limit	5.42	2,457	5.28	2,393	5.26	2,387	Recreational ACT, less discards

Staff recommend continued application of this phase-in approach, with revised 2017-2018 ABCs and associated measures that account for updated stock projections and OFLs. The 2017 OFL provided in the assessment update is 16.76 million lb or 7,600 mt. As per the previously adopted phase-in approach, the ABC should be specified at 80% of this OFL, which would result in a 2017 ABC of 13.40 million lb or 6,080 mt. For 2018, projections were re-run assuming the staff-recommended ABC would be taken in 2017, resulting in a projected 2018 OFL of 18.24 million lb or 8,272 mt. Continued application of the previously adopted phase-in approach would result in a 2018 ABC at 70% of this OFL, or 12.77 million

lb = 5,790 mt. These ABC recommendations, resulting sector-specific catch and landings limits, and their basis are shown in Table 2.

Table 2: Staff recommendation for revised 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	Projections
ABC	13.40	6,080	12.77	5,790	Staff recommendation, based on continuation of prior SSC-recommended phase-in approach, updated with new stock projections
ABC % of OFL	80%		70%		
ABC Landings Portion	11.18	5,073	10.65	4,829	Projections
ABC Discards Portion	2.22	1,007	2.12	961	Projections
Commercial ACL	7.82	3,547	7.45	3,378	60% of ABC landings portion (per FMP) + 50% of ABC discards portion
Commercial ACT	7.82	3,547	7.45	3,378	Commercial ACL, less deduction for management uncertainty
Projected Commercial Discards	1.11	504	1.06	481	50% of ABC discards portion, based on 2013-2015 average % discards by sector
Commercial Quota	6.71	3,044	6.39	2,897	Commercial ACT, less discards
Recreational ACL	5.58	2,533	5.32	2,412	40% of ABC landings portion (per FMP) + 50% of ABC discards portion
Recreational ACT	5.58	2,533	5.32	2,412	Recreational ACL, less deduction for management uncertainty
Projected Recreational Discards	1.11	504	1.06	481	50% of ABC discards portion, based on 2012-2014 average % discards by sector
Recreational Harvest Limit	4.47	2,029	4.26	1,932	Recreational ACT, less discards

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 previously recommended 2017-2018 ABCs as part of multi-year specifications for the 2016-2018 fishing years. The SSC recommends ABCs that addresses scientific uncertainty, while the Monitoring Committee recommends ACTs that address management uncertainty and management measures to constrain landings to the ACTs. As described in more detail in the "Regulatory Review" section below, the SSC, at the request of the Council, recommended 2016-2018 ABCs that phased in a necessary reduction in catch over this three-year period.

Both the SSC and Monitoring Committee will review the measures currently implemented and determine if any changes may be warranted. Based on the SSC and Monitoring Committee recommendations, the Council will make a recommendation to the NMFS Greater Atlantic Regional Administrator, if changes are warranted based on a review of the new assessment update. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to revisit summer flounder management measures in August 2016. 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 2017 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.¹

Recent Catch and Landings

Reported 2015 landings in the commercial fishery were approximately 10.68 million lb (4,843 mt), about 3% under the commercial quota of 11.07 million lb (5,021 mt). The 2016 commercial landings as of the week ending June 25, 2016, indicate that 62% of the coastwide commercial quota has been landed (Table 3).

Recreational landings in 2015 were 4.87 million (2,209 mt), about 34% below the recreational harvest limit (7.38 million lb or 3,347 mt).

¹ Available at: <http://www.mafmc.org/council-events/2016/ssc-3>.

Table 3: The 2016 state-by-state commercial quotas and the amount of summer flounder landed by commercial fishermen, in each state as of week ending June 25, 2016.

State	Cumulative Landings (lb)	Quota (lb) ^a	Percent of Quota (%)
ME	0	3,864	0
NH	0	37	0
MA	219,653	563,902	39
RI	862,847	1,285,491	67
CT	105,752	183,366	58
NY	297,928	621,244	48
NJ	500,685	1,371,944	36
DE	0	0	0
MD	30,769	165,657	19
VA	1,109,860	1,762,354	63
NC	1,893,001	2,164,731	87
Other	0	0	0
Totals	5,020,495	8,122,590	62

^a Quotas adjusted for overages. Source: NMFS Weekly Quota Report for week ending June 25, 2016.

Stock Status, Biological Reference Points, and Projections

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).² 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).

The most recent stock assessment update was completed in June 2016, using data through 2015.³ 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.

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

³ Northeast Fisheries Science Center. 2015. Stock Assessment Update of Summer Flounder for 2015. US Dept Commer, Northeast Fish Sci Cent; 17 p.

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 $57 \frac{1}{2} SSB_{MSY} \text{ proxy} = \frac{1}{2} SSB_{35\%} = 68.78$ million lb (31,197 mt). NMFS previously declared the summer flounder stock rebuilt based on the 2011 assessment update, which included stock status determinations using data through 2010. A new rebuilding plan would be triggered in the event that estimated biomass falls below the minimum stock size threshold.

The 2016 assessment updates 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. 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 is estimated at 23 million fish.

According to the assessment update for 2016, if the total catch of summer flounder in 2016 equals the 2016 ABC (16.26 million lb or 7,375 mt), the median F in 2016 is projected to be 0.309, which is at the fishing mortality threshold $F_{MSYPROXY} = F_{35\%} = 0.309$. The median SSB on November 1, 2016 is projected to be 87.63 million lb or 39,748 mt, about 64% of the biomass target $SSB_{MSYPROXY} = 137.55$ million lb or 62,394 mt. The stock assessment update gives projections for the 2017-2019 OFL based on fishing at the fishing mortality threshold $F_{MSYPROXY} = F_{35\%} = 0.309$ in each year (Table 4).

Table 4: OFL total catch, landings, discards, F, and SSB from 2016 assessment update projections.

Year	Total Catch (mt)	Landings (mt)	Discards (mt)	F	SSB (mt)
2016	7,375 ^a	6,158	1,217	0.309	39,748
2017	7,600	6,327	1,273	0.309	41,614
2018	7,946	6,593	1,353	0.309	44,947
2019	8,537	7,068	1,469	0.309	48,266

^a Assumed level of catch in 2016 = 2016 ABC.

Regulatory Review

In July 2015, the SSC recommended, and the Council and Board adopted, three-year ABCs for summer flounder, for fishing years 2016-2018, based on the 2015 assessment update. For 2016, the overfishing limit (OFL) was determined to be 18.05 million lb (8,194 mt), based on an F_{MSY} proxy of $F = 0.309$ ($F_{35\%}$) and 2015 projected biomass. Under the typical application of the Council’s normal risk policy, these numbers would result in reducing the ABC by approximately 45% between 2015 and 2016. However, recognizing that a reduction of this magnitude would have severe social and economic impacts, the Council requested, via their terms of reference for the SSC, that the SSC recommend multi-year ABCs using an “approach which phases-in any required reductions in the ABC specifications over a three-year period without exceeding the OFL.” The Council’s current risk policy allows for deviations from the control rules, with justification, and provided that the resulting ABC does not exceed the OFL and that the probability of overfishing never exceeds 50 percent.

The approach applied in 2015 reduces the scientific uncertainty buffer between the OFL and ABC in years 1 and 2 (2016 and 2017) in order to address economic and social concerns. The buffer between the OFL and ABC that would be required under the SSC’s typical application of the control rule was proposed to be expanded by 1/3 of the total buffer each year, starting in 2016, such that by year 3 (2018) 100% of the buffer for scientific uncertainty would have been addressed. The ABC in each year would be less than the OFL, and the probability of overfishing would be less than 50 percent, in all three years.

Specifically, the approach adopted was as follows: based on the assessment update projections, and assuming the 2015 ABC is taken, the OFL for 2016 was determined to be 18.06 million lb (8,194 mt). The typical Council risk policy was applied to this OFL, using the same assumptions the SSC previously applied for summer flounder (a 60% CV and typical life history). The resulting ABC represented 70% of the 2016 OFL, resulting in a 30% buffer between the OFL and the ABC to account for scientific uncertainty. Instead of applying the full 30% buffer from the OFL to ABC to address scientific uncertainty in 2016, the SSC adopted an approach that applied a 10% buffer from the OFL in 2016, 20% in 2017, and 30% in 2018 (see Table 1). Because the assumptions about the level of catch in a given year affect the biomass projections for the following year, this approach required re-running/iterating the projections with the assumption that the ABC would be taken in each year.

Under the three-year phase approach for the required reduction in ABC, and assuming a CV in the OFL of 60% and that the ABC is caught in each year, the resulting ABCs, P* values, OFLs, and projected SSB are shown in Table 5.

Table 5: Currently implemented ABCs, P*, OFL, and projected SSB for each year 2016-2018 under the three-year phase-in adopted by the SSC in 2015.⁴

Year	ABC (mt)	P*	OFL (mt)	SSB (mt)
2016	7,375	0.425	8,194	45,885
2017	7,193	0.344	8,991	50,052
2018	7,111	0.260	10,159	54,966

The SSC noted that the projected biomass for the stock in 2018 was approximately equal to that expected to be present if the Council’s risk policy had been followed for all three years.

⁴ Mid-Atlantic Fishery Management Council Scientific and Statistical Committee July 2015 meeting report, available at: <http://www.mafmc.org/ssc-meetings/2015/july-21-23>.

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 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

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

- Retrospective patterns evident in the assessment update 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.
- Projections are made assuming the ABC will be harvested fully, but not exceeded. However, there are trends in harvest indicating an increasingly likelihood of catches exceeding ABCs.
- In 2016 and 2017, the probability of overfishing is higher than the Council’s risk policy.
- The potential exists for sex-specific differences in life history parameters.
- The existence of spatially distinct size distributions.
- NEFSC surveys and PMAFS fishery sampling confirm sexually-dimorphic and time-varying spatial differences in growth that are not fully accounted for in the stock assessment because not all fishery and survey catches were fully and independently sampled by sex.
- Landings from commercial fishery assume no under-reporting of Summer Flounder landings and thus should be considered minimal estimates.
- The current assumption for M remains an ongoing source of uncertainty. M is highly influential on assessment results and impacts nearly all aspects of the assessment and evaluation of status.
- The stock-recruitment relationship could not be defined internally in the model and thus an FMSY proxy was used to calculate the OFL.

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.

Staff Recommendations for 2017-2018 ABCs

Staff recommend revising the currently implemented specifications for summer flounder for the 2017 and 2018 fishing years, using the same approach adopted by the SSC in 2015 to set 2016-2018 ABCs, but using updated stock projections and OFLs. Specifically, staff recommend maintaining the previous percentage-based buffers from the OFL in 2017 and 2018 that were previously recommended by the SSC (20% and 30%, respectively), but applying these percentages to revised OFLs based on updated stock projections.

Updated OFLs for 2017 and 2018 were derived using updated biomass projections and presuming that the ABC was caught in the preceding year. The SSB in the current year is then updated based on the presumed catch. The 2017 OFL, as indicated in the 2016 assessment update projections, is 16.76 million lb or 7,600 mt. Thus, the continued application of the same phase-in approach identified by the SSC in 2015, updated to reflect the new 2017 OFL, would be 13.40 million lb (6,080 mt; 80% of the 2017 OFL). For 2018, the projected OFL under this ABC approach would be 18.24 million lb, or 8,272 mt. Using the previously recommended phase-in approach, the 2018 ABC would then be 70% of this OFL, or 12.77 million lb (5,790 mt).

Projections for total catch, landings, discards, F, and SSB associated with the staff-recommended ABC were provided by NEFSC staff, as shown in Table 6.

Table 6: Projected ABC total catch, landings, discards, fishing mortality (F) and Spawning Stock Biomass (SSB). P* values associated with staff recommendations.

Year	OFL	ABC % of OFL	ABC Total Catch	Landings	Discards	F	P* Value	SSB
2016 ^a	18.06 mil lb (8,194 mt)	90%	16.26 mil lb (7,375 mt)	13.54 mil lb (6,142 mt)	2.72 mil lb (1,233 mt)	0.309	0.538	87.63 mil lb (39,748 mt)
2017	16.76 mil lb (7,600 mt)	80%	13.40 mil lb (6,080 mt)	11.18 mil lb (5,073 mt)	2.22 mil lb (1,007 mt)	0.242	0.343	94.52 mil lb (42,873 mt)
2018	18.24 mil lb (8,272 mt)	70%	12.77 mil lb (5,790 mt)	10.65 mil lb (4,829 mt)	2.12 mil lb (961 mt)	0.209	0.260	106.31 mil lb (48,219 mt)

^a 2016 F and P* values revised based on most recent projections. When previously recommended, 2016 projected F was 0.275 and P* was 0.425.

In summary, staff recommend revised a revised 2017 ABC of 13.40 million lb (6,080 mt). For 2018, the recommended revised ABC is 12.77 million lb (5,790 mt).

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 multi-year specifications were set for 2016-2018, the most recent three-year period was 2012-2014, during which 52% of dead discards were attributable to the recreational fishery, and 48% to the commercial fishery on average (Table 1). According to the 2016 assessment update, the proportions from 2013-2015 were 50% from the recreational fishery and 50% from the commercial fishery. Staff-recommended sector-specific ACLs shown in Table 1 reflect this updated ratio.

Summer Flounder Flowchart

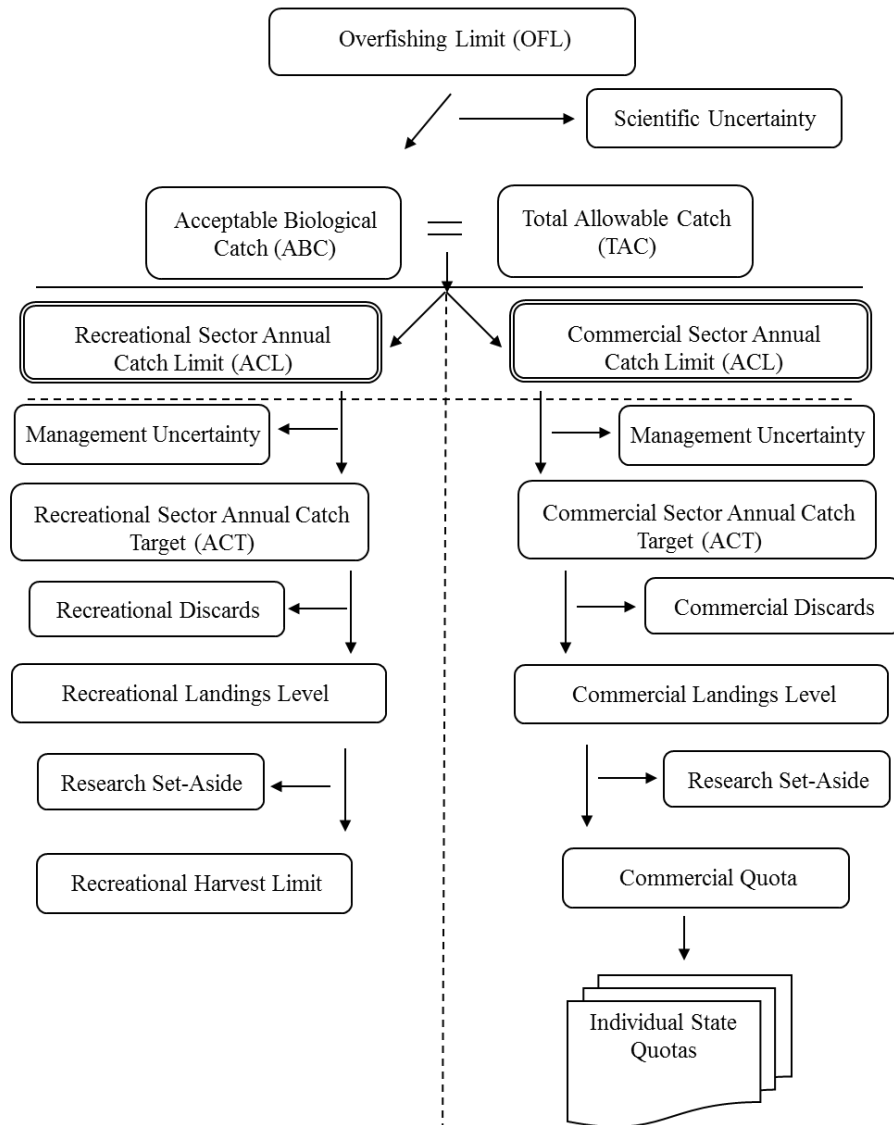


Figure 1: Flowchart for summer flounder catch and landings limits. Note: the RSA program was suspended in 2014.

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 typically been below the recreational harvest limits for the past five years, with the exception of 2014. In 2015, the recreational fishery experienced a large underage, with landings 34% below the recreational harvest limit. The commercial fishery has reported landings generally very near the commercial quotas for the last several years, although overages were higher in 2013 and 2014 (Table 7). 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. Staff recommend maintaining ACTs set equal to the ACLs, such that no reduction in catch is taken for management uncertainty.

Table 7: Summer flounder commercial and recreational fishery performance relative to quotas and harvest limits, 2011-2015.

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(-)
2011	16.56	17.38	-5%	5.96	11.58	-49%
2012	13.03	12.73	+2%	6.49	8.49	-24%
2013	12.49	11.44	+9%	7.39	7.63	-3%
2014	11.07	10.51	+5%	7.40	7.01	+6%
2015	10.68	11.07	-4%	4.87	7.38	-34%
5-yr Avg.	-	-	+2%	-	-	-21%

^a Source: NMFS dealer data as of May 2016. ^b Source: NMFS MRIP database as of June 13, 2016. 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 8.

Table 8: 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 2017 will not be determined until after the first four waves of 2016 recreational landings are reviewed. These data will become available in October 2016. 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., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to achieve the recreational 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.

Staff evaluated the available Northeast Fisheries Observer Program (NEFOP) data for the period from November 1, 2015 to April 30, 2016. These data indicate that a total of 294 trips with at least one tow were observed east of 72° 30.0'W, and of these, 171 of these trips used small mesh (Table 9). Of those 171 trips, 65 trips reported landing more than 200 lb of summer flounder. Of those 65 trips, 12 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 4.1% (12 trips/294 trips). The prior year percentage of trips that met the criteria, also shown in Table 9, was about 5.1%.

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

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

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. The Committees did not see an immediate need to revise or eliminate the program; however, they did note a need to monitor trends in this analysis given an increase in the percent of observed trips meeting these criteria between 2013-2014 and 2014-2015. The Committees indicated that this change may be driven by behavioral changes in fishing practices or demographic changes in the summer flounder population. Based on the information described above and the apparent decrease in the percentage of trips meeting the specified criteria, staff recommend no change in the SMEP program.

Table 9: 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	413	294
B	That met the criteria in row A <u>and</u> used small mesh at some point during their trip	173	171
C	That met the criteria in rows A-B <u>and</u> landed more than 200 pounds summer flounder on whole trip	73	65
D	That met the criteria in rows A-C <u>and</u> discarded >10% of summer flounder catch east of 72° 30' W Longitude	21	12
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)	5.1%	4.1%
F	Total summer flounder discards (pounds) from trips meeting criteria in A-D	14,579	10,992
G	Total summer flounder landings (pounds) from trips meeting criteria in A-D	15,224	10,523
H	Total catch (pounds) from trips meeting criteria in A-D	29,804	21,515

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 Todd VanMiddlesworth dated June 23, 2016 (see Attachment) indicates that no summer flounder were landed in the North Carolina flynet fishery in 2015, and overall flynet landings were lower in 2015 than in 2014 likely due to shoals causing hazardous conditions at Oregon Inlet limiting access of flynet boats to North Carolina ports. 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.



PAT McCRORY
Governor

DONALD R. VAN DER VAART
Secretary

Memorandum

To: Kiley Dancy, MAFMC

From: Todd Daniel VanMiddlesworth, NCDMF

Date: June 23, 2016

Subject: Species composition and landings from the 2015 North Carolina flynet fishery

The 2015 North Carolina flynet 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 flynet fishery. Note that flynet landings for most species were lower in 2015 than in 2014 likely due to shoals causing hazardous conditions at Oregon Inlet limiting access of flynet boats to North Carolina ports.

Table 1. Species composition and landings for 2015 North Carolina flynet fishery. Species with confidential landings are listed under “Other Species”.

Species	Weight (lb)	Percent
Croaker	102,551	61.8
Other Species	61,547	37.1
Squid, Loligo	1,927	1.2
Total	166,025	100

Other Species
Bluefish
Butterfish
Cobia
Cutlassfish (Ribbonfish)
Lookdown
Menhaden Bait
Monkfish (Whole)
Scup
Sea Bass, Black
Sea Mullet (whiting, kingfish)
Shrimp, Brown (summer), mixed
Shrimp, White (greentails), mixed
Spot
Trout (Gray Trout)

Summer Flounder Stock Assessment Update for 2016

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

State of Stock: This assessment of summer flounder (*Paralichthys dentatus*) is an update through 2015 of commercial and recreational fishery catch data, research survey indices of abundance, and the analyses of those data. The summer flounder stock was not overfished but overfishing was occurring in 2015 relative to the biological reference points from the 2013 SAW 57 benchmark assessment (NEFSC 2013; Figures 1-4). 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 (Figures 1-3). The 90% confidence interval for F in 2015 was 0.292 to 0.490. Spawning stock biomass (SSB) decreased from 23,998 mt in 1982 to 5,331 mt in 1989 and then increased to peaks of 49,869 mt in 2003 and 46,272 mt in 2010. SSB was estimated to be 36,240 mt in 2015, 58% of the 2013 SAW 57 SSB_{MSY} proxy = $SSB_{35\%}$ = 62,394 mt, and 16% above the 2013 SAW 57 $\frac{1}{2} SSB_{MSY}$ proxy = $\frac{1}{2} SSB_{35\%}$ = 31,197 mt (Figures 1-2 & 4). The 90% confidence interval for SSB in 2015 was 32,605 to 44,425 mt. The 1983 and 1985 year classes are the largest in the assessment time series, at 75 and 62 million fish, while the 1988 year class is the smallest at only 10 million fish. The average recruitment from 1982 to 2015 is 41 million fish at age 0. Recruitment has been below average since 2010, ranging from 21 to 36 million and averaging 26 million fish (Figures 4-5).

The consistent pattern in the underestimation of F and the overestimation of SSB noted for the last several terminal years has continued. Moderate internal model retrospective patterns in F and SSB are evident in the updated assessment model, as the average retrospective errors over the last 7 terminal years are -20% and +11% (Figures 6-7), about twice as large as the magnitude of the 2013 SAW 57 retrospective errors. The 2015 model estimates of F and SSB adjusted for this internal retrospective error are still within the model estimate 90% confidence intervals, however, and so no adjustment of the terminal year estimates has been made for stock status determination or projections (Figure 2). There continues to be consistent retrospective pattern in recruitment averaging +22% (Figure 8). The historical assessment retrospective likewise indicates the emergence of a gradual upward adjustment of recent F estimates and downward adjustment of recent SSB estimates since the 2011 updated assessment (Figure 9). Tracking of recent assessment estimates and projections of Catch, F , and SSB indicates that while catches have not substantially exceeded the specified Acceptable Biological Catch (ABC; Figure 10), projected F has been exceeded while projected SSB has not been reached (Figures 11-12; F2016_PROJ estimates from preliminary ABC projections not yet approved). This result is mainly due to the recruitment to the stock of below average year classes in 2010-2015.

Catch: Reported 2015 landings in the commercial fishery were 4,843 mt = 10.677 million lbs, about 3% under the commercial quota (5,021 mt = 11.069 million lbs). Estimated 2015 landings in the recreational fishery were 2,209 mt = 4.870 million lbs, about 34% below the recreational harvest limit (3,347 mt = 7.379 million lbs). Total commercial and recreational landings in 2015 were 7,052 mt = 15.547 million lbs and total commercial and recreational discard losses were 1,233 mt = 2.718 million lbs, for a total catch in 2015 of 8,285 mt = 18.265 million lbs (Figure 3), about 20% below the 2015 ABC = 10,329 mt = 22.772 million lbs.

**Catch and Status Table: Summer flounder
(weight in 000s mt, recruitment in millions, arithmetic means)**

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Max ¹	Min ¹	Mean ¹
Commercial landings	6.3	4.5	4.2	5.0	6.1	7.5	5.9	5.6	5.0	4.8	17.1	4.0	7.5
Commercial discards ³	1.5	2.1	1.2	1.4	1.5	1.1	0.7	0.7	0.8	0.8	2.2	0.2	1.1
Recreational landings	4.8	4.2	3.7	2.7	2.3	2.6	2.9	3.4	3.4	2.2	12.5	1.4	4.7
Recreational discards ³	0.8	1.0	1.2	1.1	1.1	1.1	0.8	0.8	0.9	0.6	1.2	0.1	0.7
Total Catch	13.4	11.8	10.3	10.2	11.0	12.3	10.3	10.5	10.1	8.3	26.3	7.9	14.0
Commercial quota	6.4	4.7	4.3	5.0	6.0	8.0	5.8	5.4	4.8	5.0	8.1	3.6	6.9
Recreational harvest limit	4.3	3.1	2.9	3.3	4.0	5.3	3.9	3.5	3.2	3.3	5.5	2.5	4.5
Spawning Stock Biomass ²	45.6	44.2	44.0	45.6	46.3	44.1	44.0	40.1	37.8	36.2	50.0	5.3	28.4
Recruitment (age 0)	36.6	37.8	44.3	52.3	35.9	20.7	23.9	27.0	34.8	23.0	74.7	9.8	40.5
F (age 4)	0.35	0.29	0.36	0.37	0.39	0.47	0.38	0.39	0.38	0.39	1.78	0.28	0.82

1: Over the period 1982-2015
 2: On November 1 annually
 3: Dead discards

Projections: If the total catch of summer flounder in 2016 equals the specified ABC = 7,375 mt = 16.259 million lbs, the median F in 2016 is projected to be 0.309, at the fishing mortality threshold = F_{MSY} proxy = $F_{35\%}$ = 0.309. The median SSB on November 1, 2016 is projected to be 39,748 mt = 87.629 million lbs, below the biomass target SSB_{MSY} proxy = $SSB_{35\%}$ = 62,394 mt = 137.555 million lbs.

If the stock is fished at the fishing mortality threshold = F_{MSY} proxy = $F_{35\%}$ = 0.309 in 2017-2019, the median annual total catches are the Overfishing Limit (OFL) for 2017-2019. The projected estimates in the following table are medians of the distributions for fixed F.

OFL Total Catch, Landings, Discards
Fishing Mortality (F) and Spawning Stock Biomass (SSB)
Catches and SSB in metric tons

Year	Total Catch	Landings	Discards	F	SSB
2016	7,375	6,158	1,217	0.309	39,748
2017	7,600	6,327	1,273	0.309	41,614
2018	7,946	6,593	1,353	0.309	44,947
2019	8,537	7,068	1,469	0.309	48,266

Stock Distribution and Identification: The Mid-Atlantic Fishery Management Council (MAFMC) and Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plan for summer flounder defines the management unit as all summer flounder from the southern border of North Carolina northeast to the US-Canada border. For assessment purposes, the definition of Wilk et al. (1980) of a unit stock extending from Cape Hatteras north to New England has been accepted in this and previous assessments. The current management unit is consistent with a summer flounder genetics study, which revealed no population subdivision at Cape Hatteras (Jones and Quattro 1999). A consideration of summer flounder stock structure incorporating tagging data supported the existence of stocks north and south of Cape Hatteras, with the stock north of Cape Hatteras possibly composed of two distinct spawning aggregations, off New Jersey and Virginia-North Carolina (Kraus and Musick, 2003). The assessment is consistent with the conclusions of this study.

Assessment Model: The population model implemented for summer flounder is the forward projecting age-structured model ASAP (Legault and Restrepo 1998, NFT 2013a). The model assumes age-dependent values for instantaneous natural mortality (M) that result in a mean value of $M = 0.25$. The catch in the model includes both commercial and recreational fishery landings and discards at age. The fishery landings and discards are treated as two fleets in the model. Indices of stock abundance including age compositions from the NEFSC winter, spring, and fall, Massachusetts spring and fall, Rhode Island fall and monthly fixed, Connecticut spring and fall, Delaware, New York, New Jersey, VIMS ChesMMAAP, and VIMS NEAMAP spring and fall trawl surveys were used in the ASAP model calibration. Aggregate indices of stock abundance from the URI GSO trawl survey and NEFSC MARMAP and ECOMON larval surveys, and recruitment indices (age 0; Young-Of-the-Year, YOY) from surveys conducted by the states of Massachusetts, Delaware, Maryland, and Virginia were also used in the model calibration.

Biological Reference Points (BRPs): The existing 2013 SAW 57 biological reference points for summer flounder are based on stochastic yield and SSB per recruit and stochastic projection models in the NOAA NFT framework (NEFSC 2013; NFT 2013b, c; Thompson and Bell 1934) using values from the 2013 assessment. The fishing mortality reference point is $F_{35\%} = 0.309$ (CV = 15%) as a proxy for F_{MSY} . The biomass reference point proxy is estimated as the projection of Jan 1, 2013 stock sizes at $F_{35\%} = 0.309$ and mean recruitment of 43 million fish per year (1982-2012). The SSB_{MSY} proxy is estimated to be 62,394 mt (137.6 million lbs; CV = 13%), and the biomass threshold of one-half SSB_{MSY} is estimated to be 31,197 mt (68.8 million lbs; CV = 13%). The MSY proxy is estimated to be 12,945 mt (28.539 million lbs; CV = 13%; 10,455 mt = 23.049 million lbs of landings plus 2,490 mt = 5.490 million lbs of discards).

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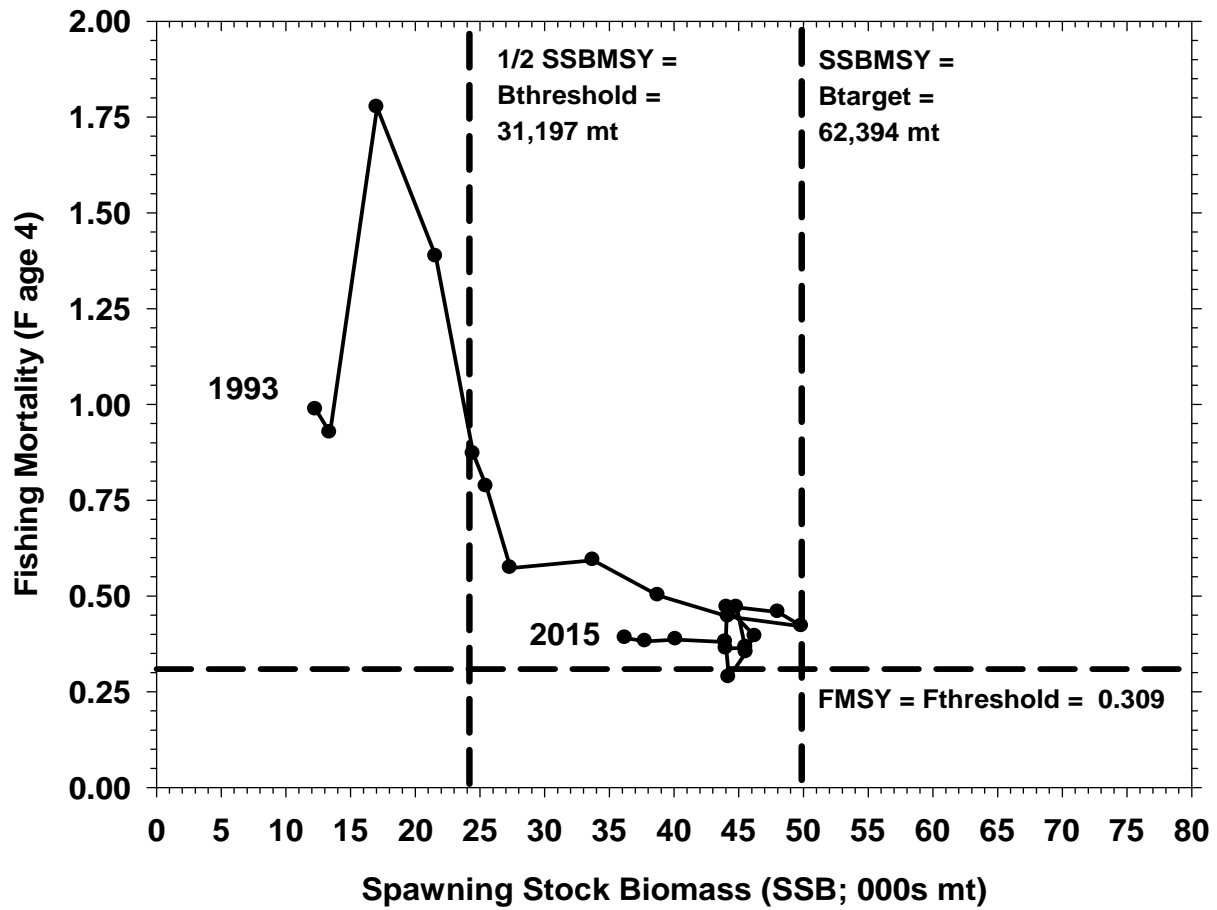


Figure 1. Stock status time series since 1993 for summer flounder. The horizontal dashed line is the 2013 SAW 57 fishing mortality threshold reference point proxy; the vertical dashed lines are the 2013 SAW 57 biomass threshold and target reference point proxies.

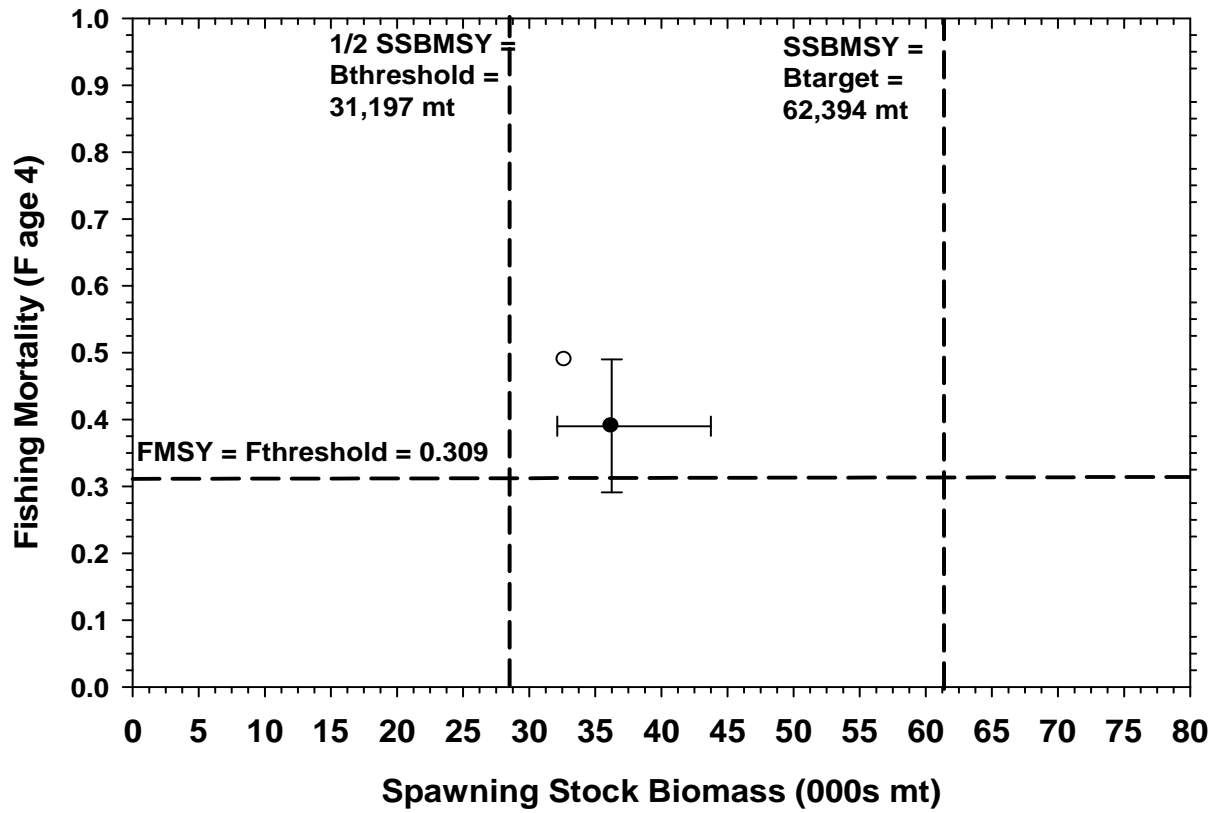


Figure 2. Stock status of summer flounder in 2015 with respect to 2013 SAW 57 threshold and target reference point proxies. The filled circle is the model estimate and the error bars are 90% confidence intervals; the open circle is the model estimate adjusted for internal model retrospective error.

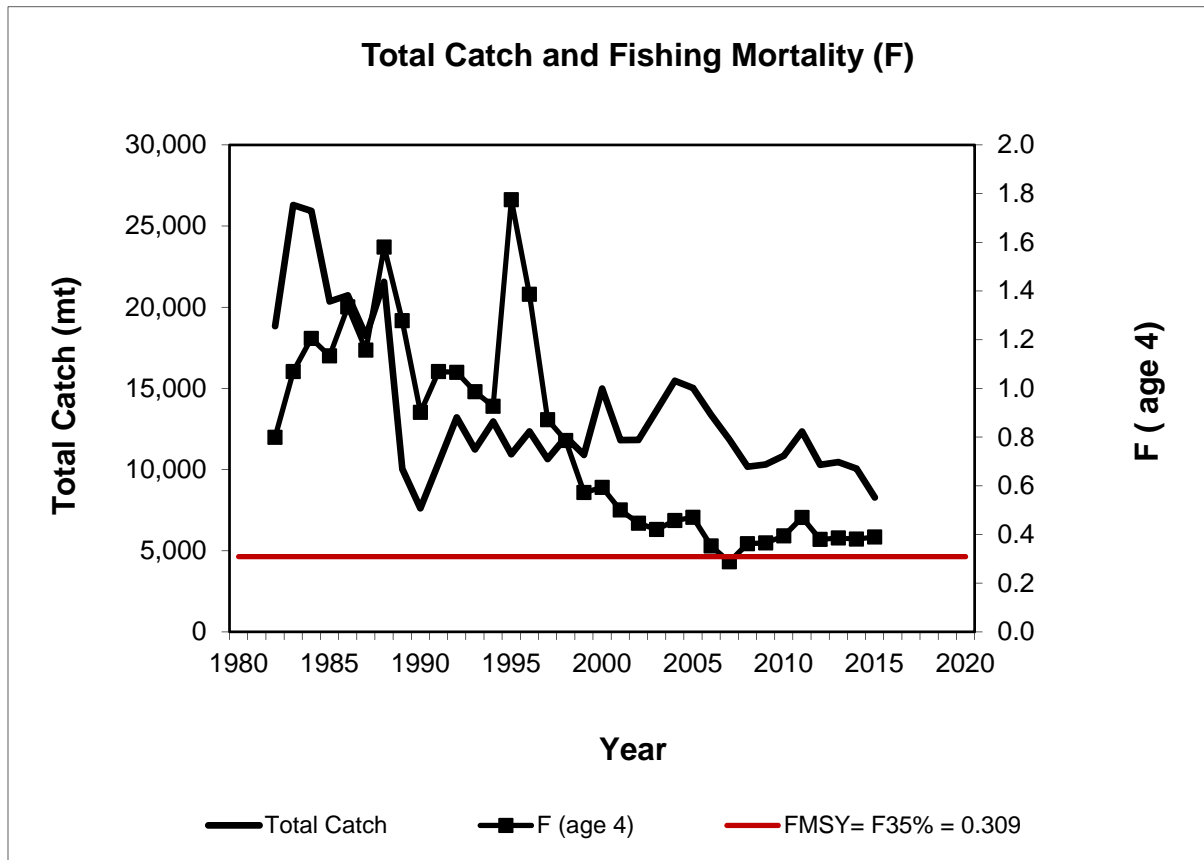


Figure 3. Total fishery catch and fully-recruited fishing mortality (F, peak at age 4) of summer flounder. The horizontal red line is the 2013 SAW 57 fishing mortality threshold reference point proxy.

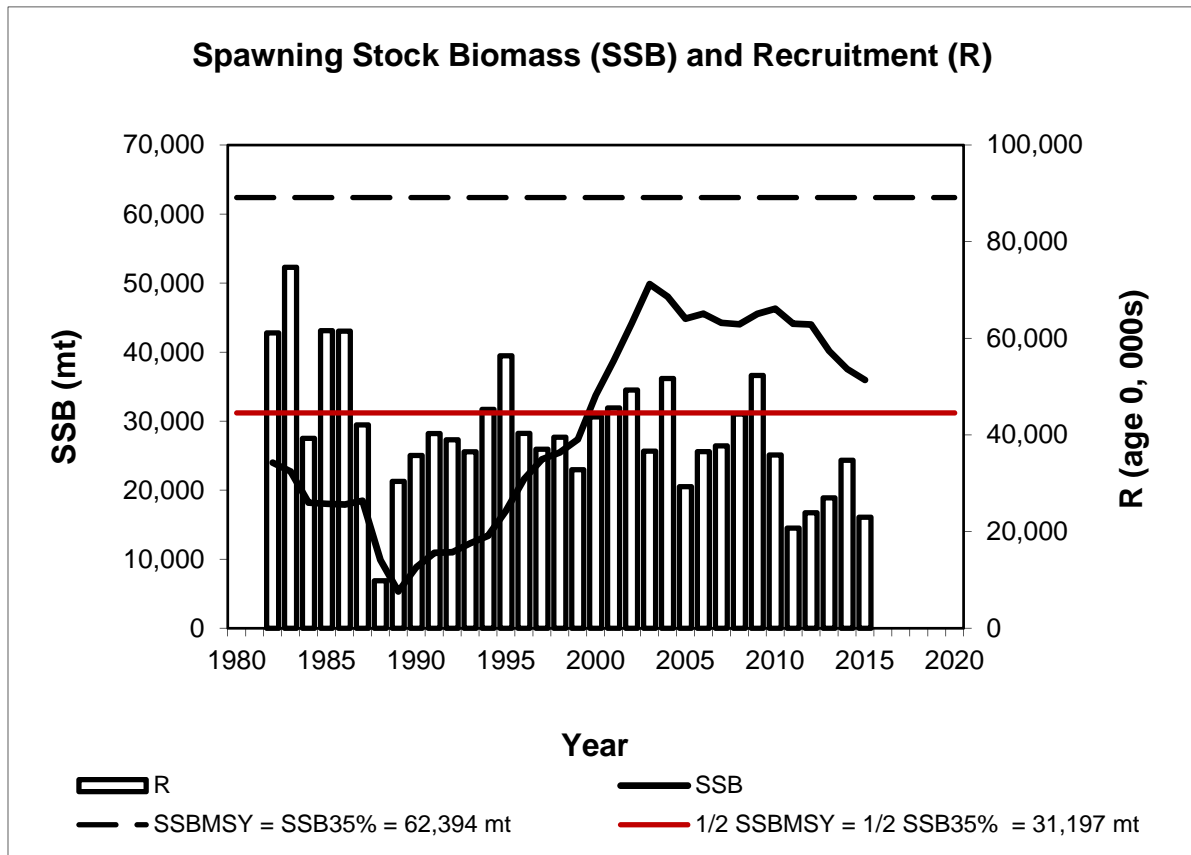


Figure 4. Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW 57 biomass target reference point proxy; the horizontal red line is the biomass threshold reference point proxy.

Summer flounder Stock-Recruitment Data for 1983-2015 Year Classes

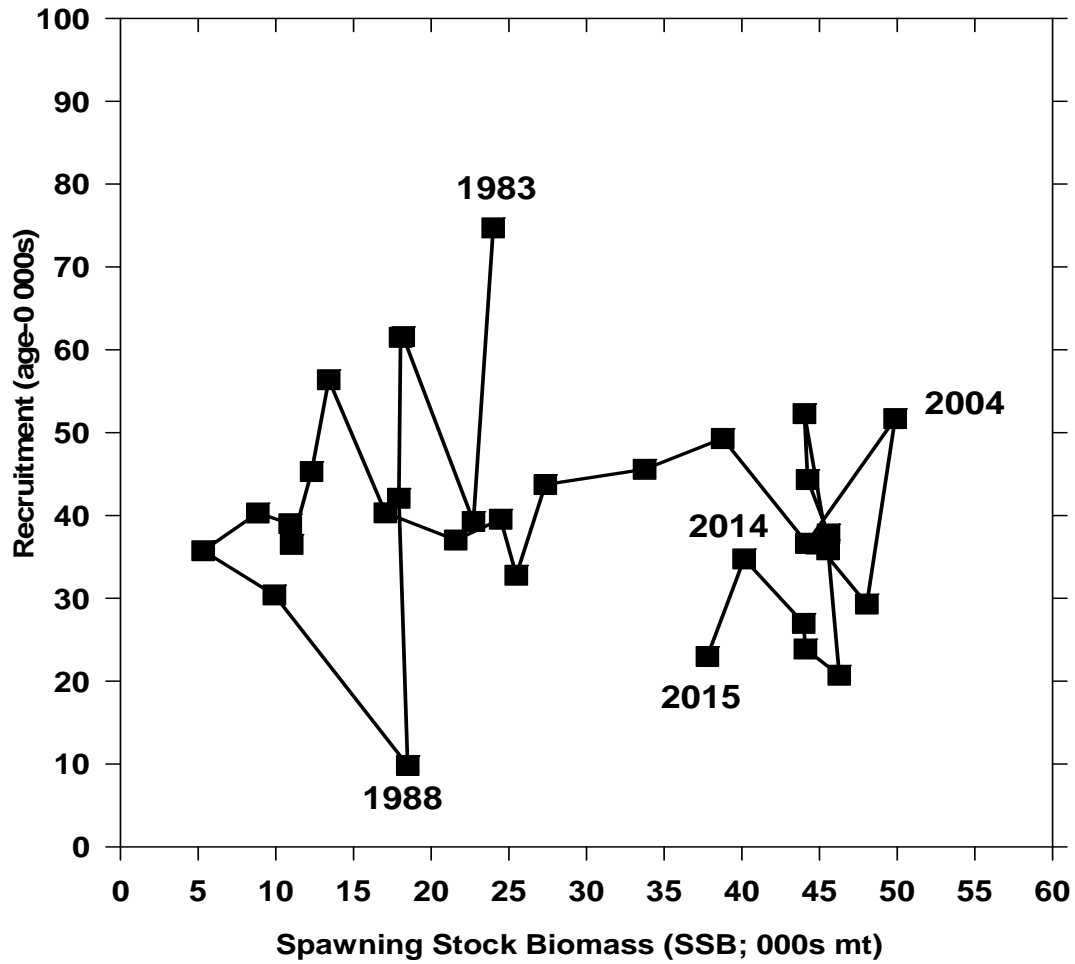


Figure 5. Stock-recruitment scatter plot for summer flounder 1983-2015 year classes.

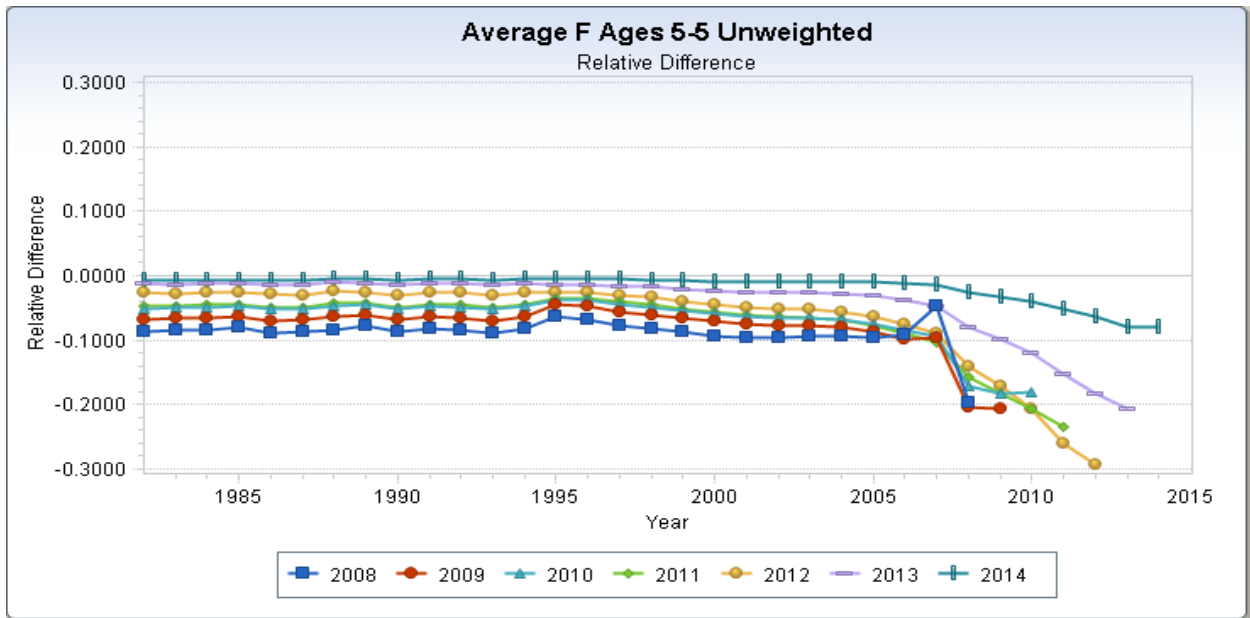
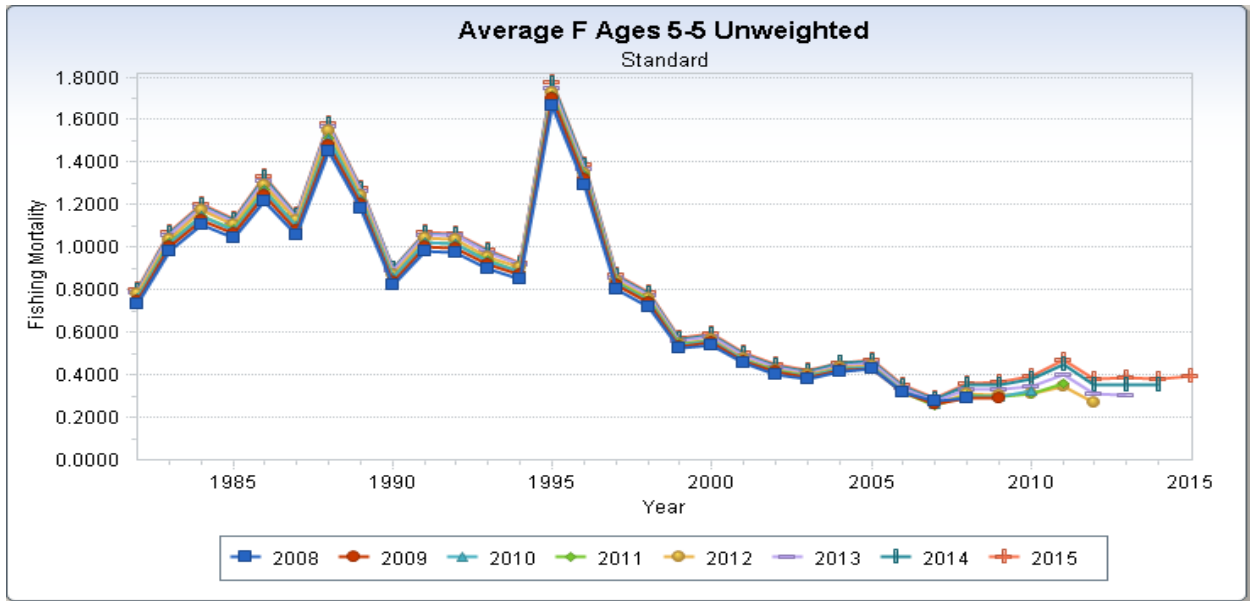


Figure 6. Results of internal model retrospective analysis: fully recruited F (true age 4, model age 5); average retrospective error = -20%.

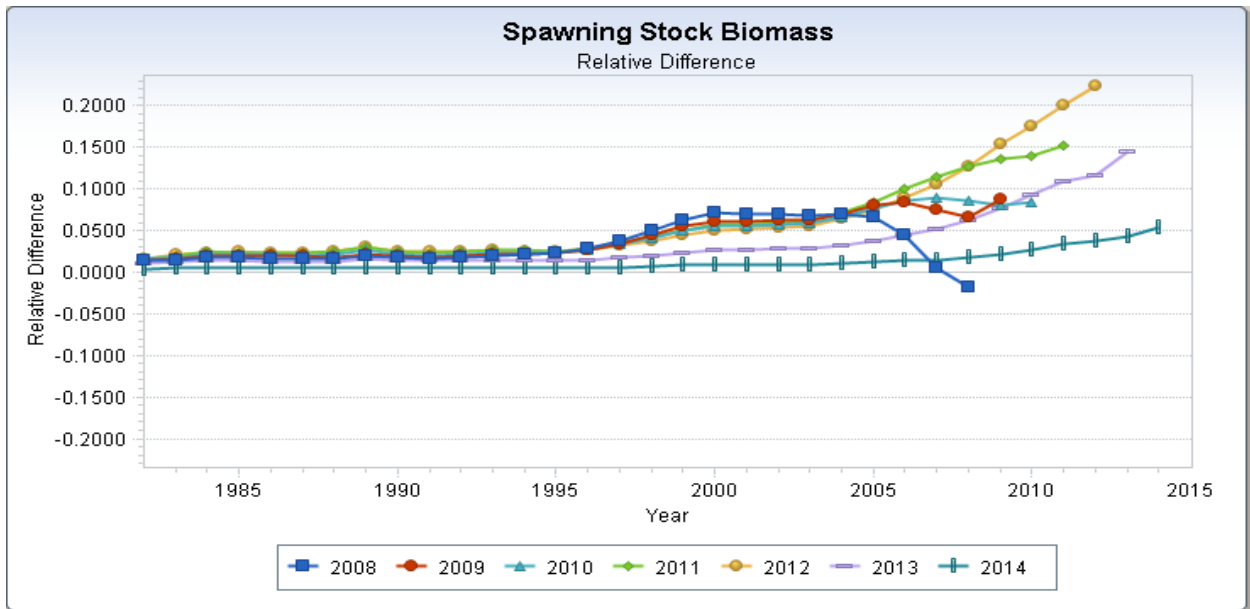
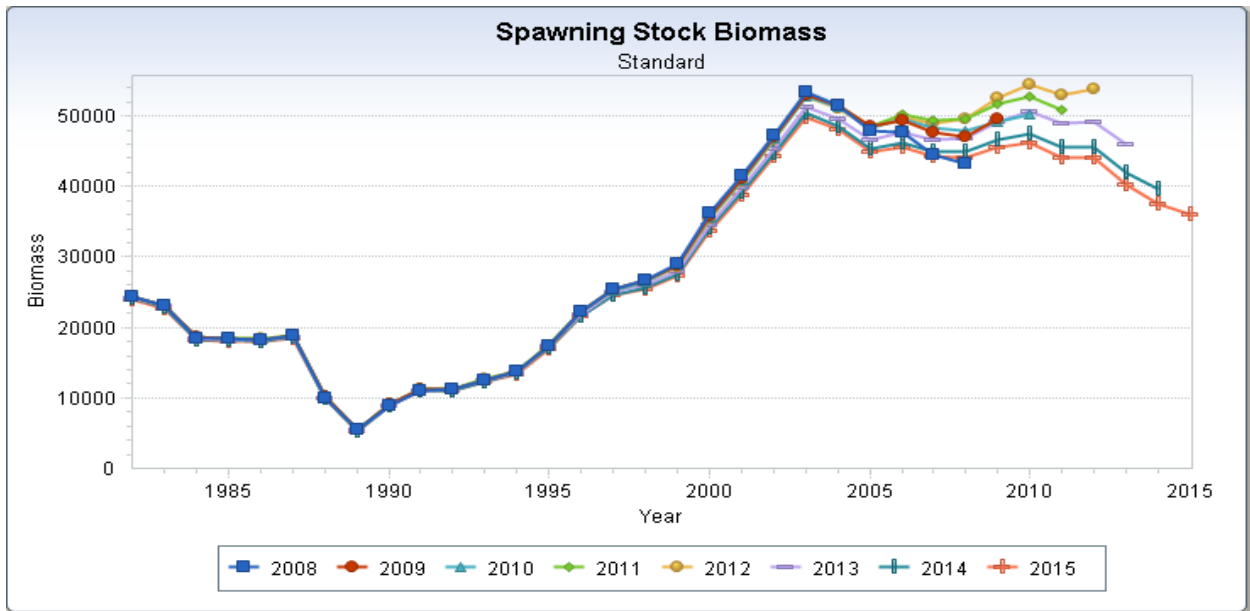


Figure 7. Results of internal model retrospective analysis: Spawning Stock Biomass; average retrospective error = +11%.

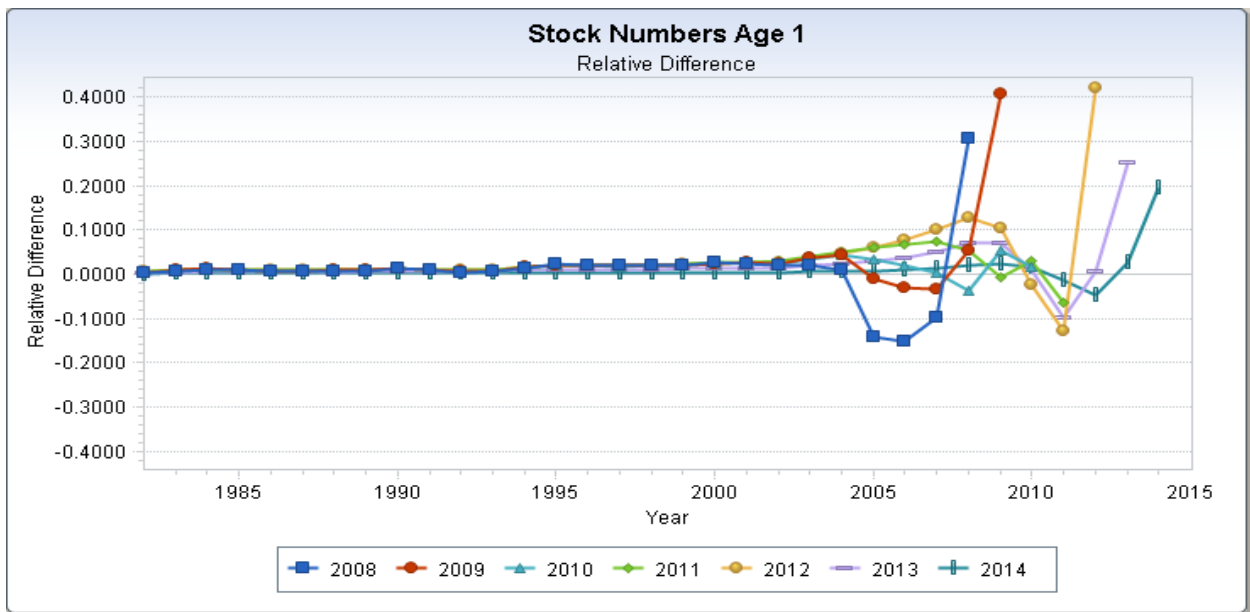
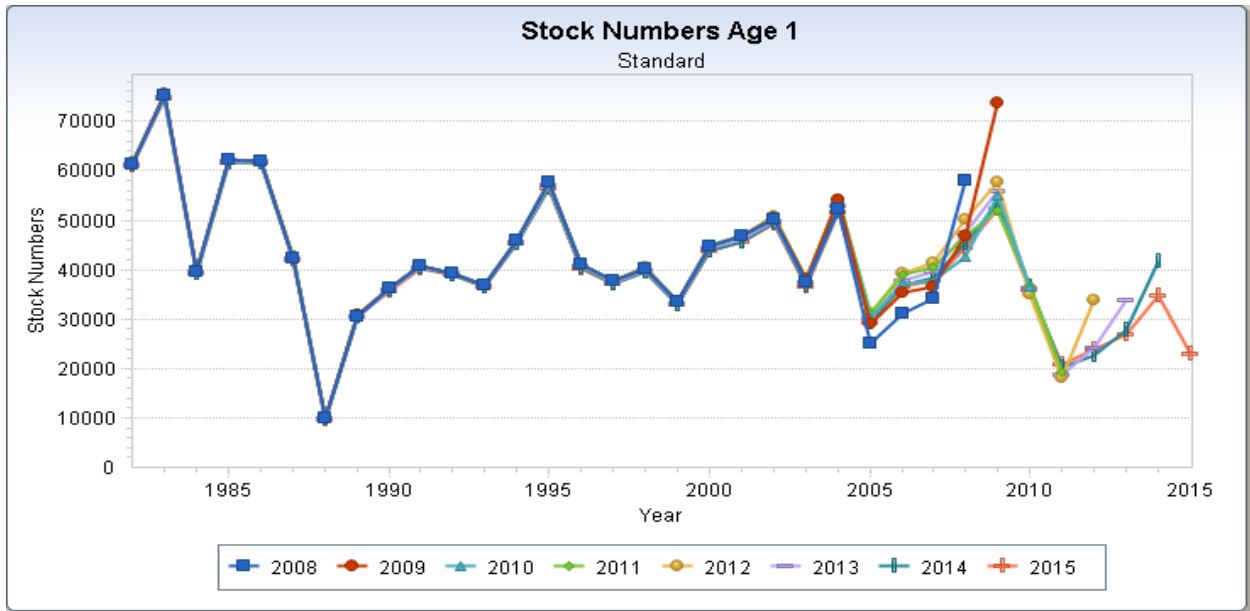


Figure 8. Results of internal model retrospective analysis: R (recruitment at true age 0, model age 1); average retrospective error = +22%.

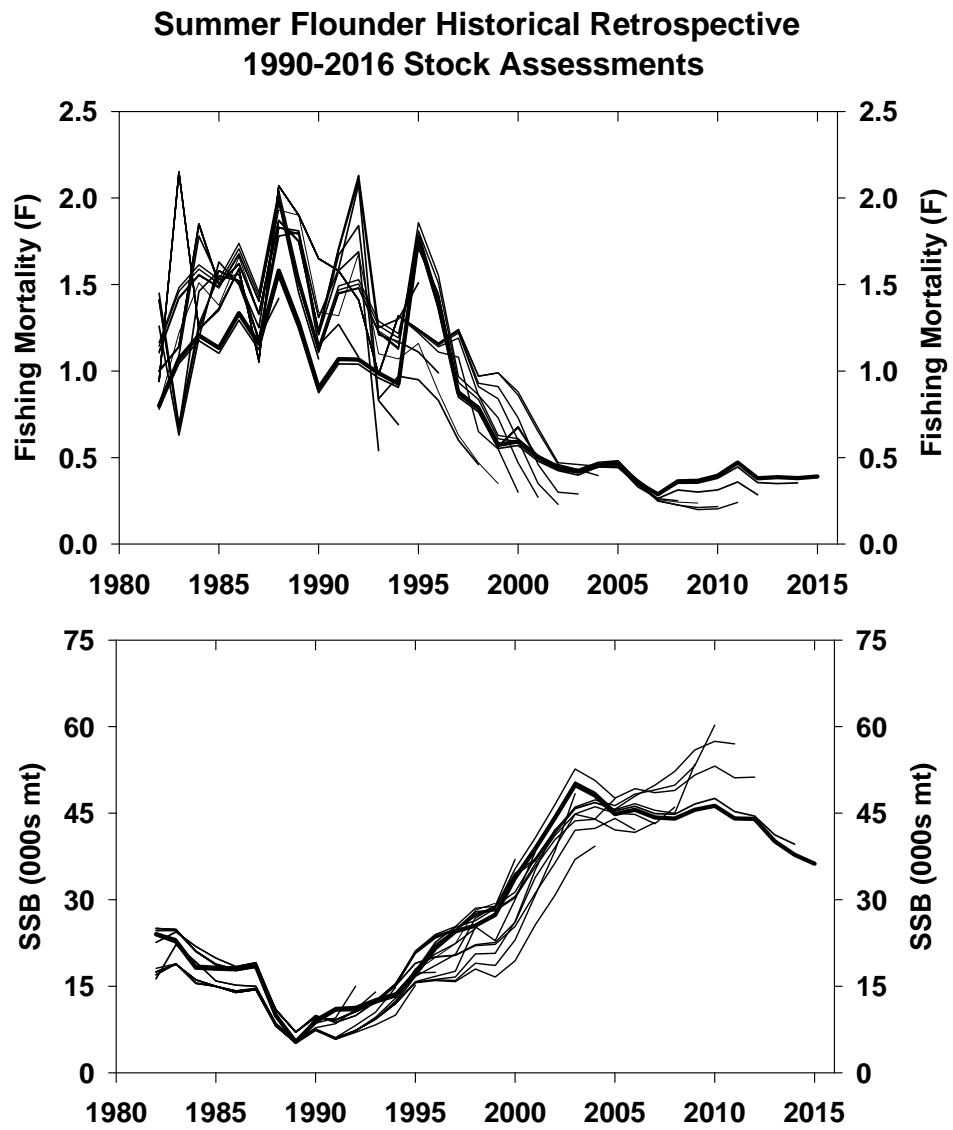


Figure 9. Comparison of estimates from the 1990-2016 assessments.

Summer flounder Projection Performance: Total Catch

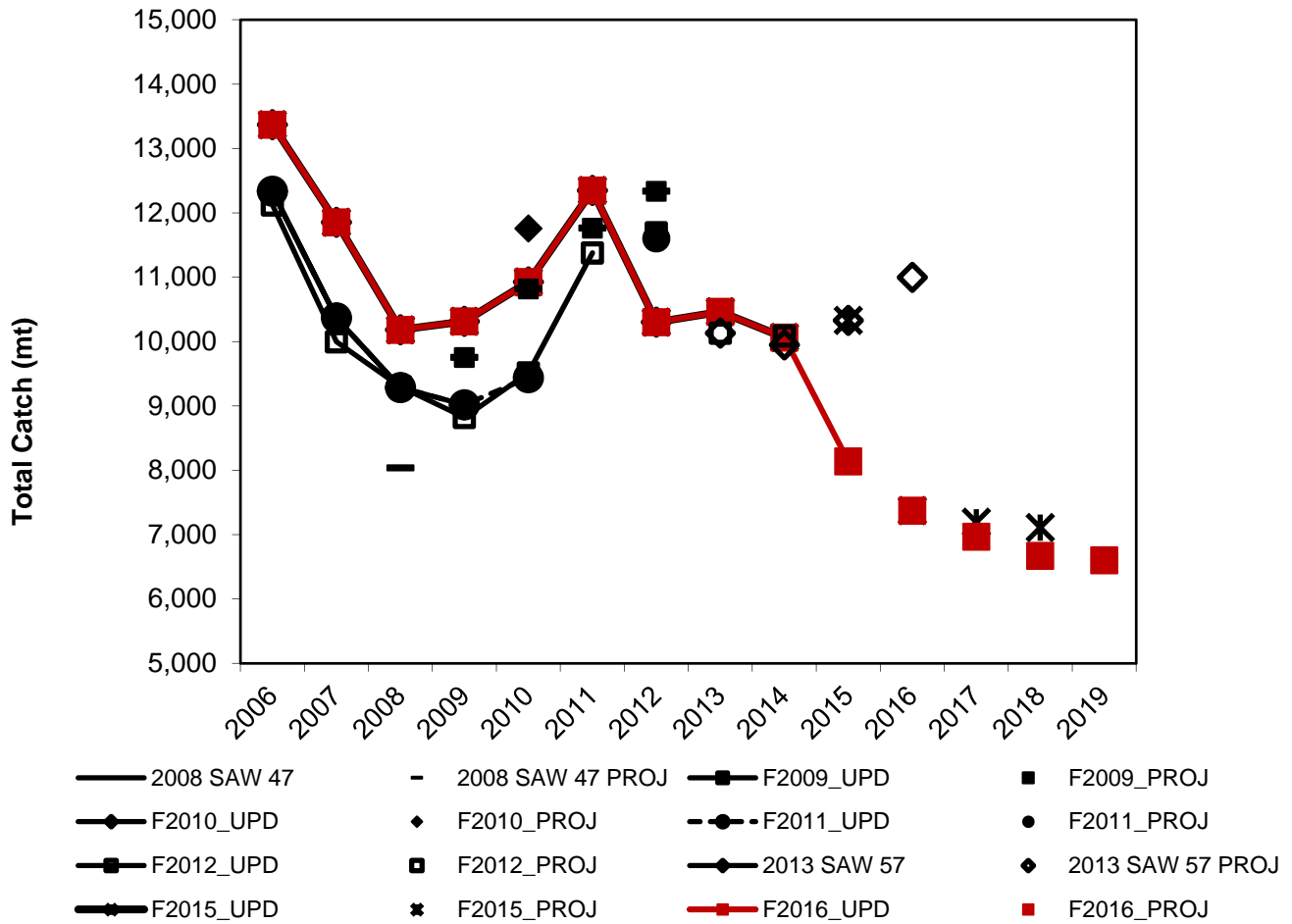


Figure 10. Comparison of estimated and projected total catch (ABC) from the 2008 through 2016 assessments. The F2016 assessment catches projected for 2016-2019 are the 'Phase-In' preliminary ABCs that are not yet approved.

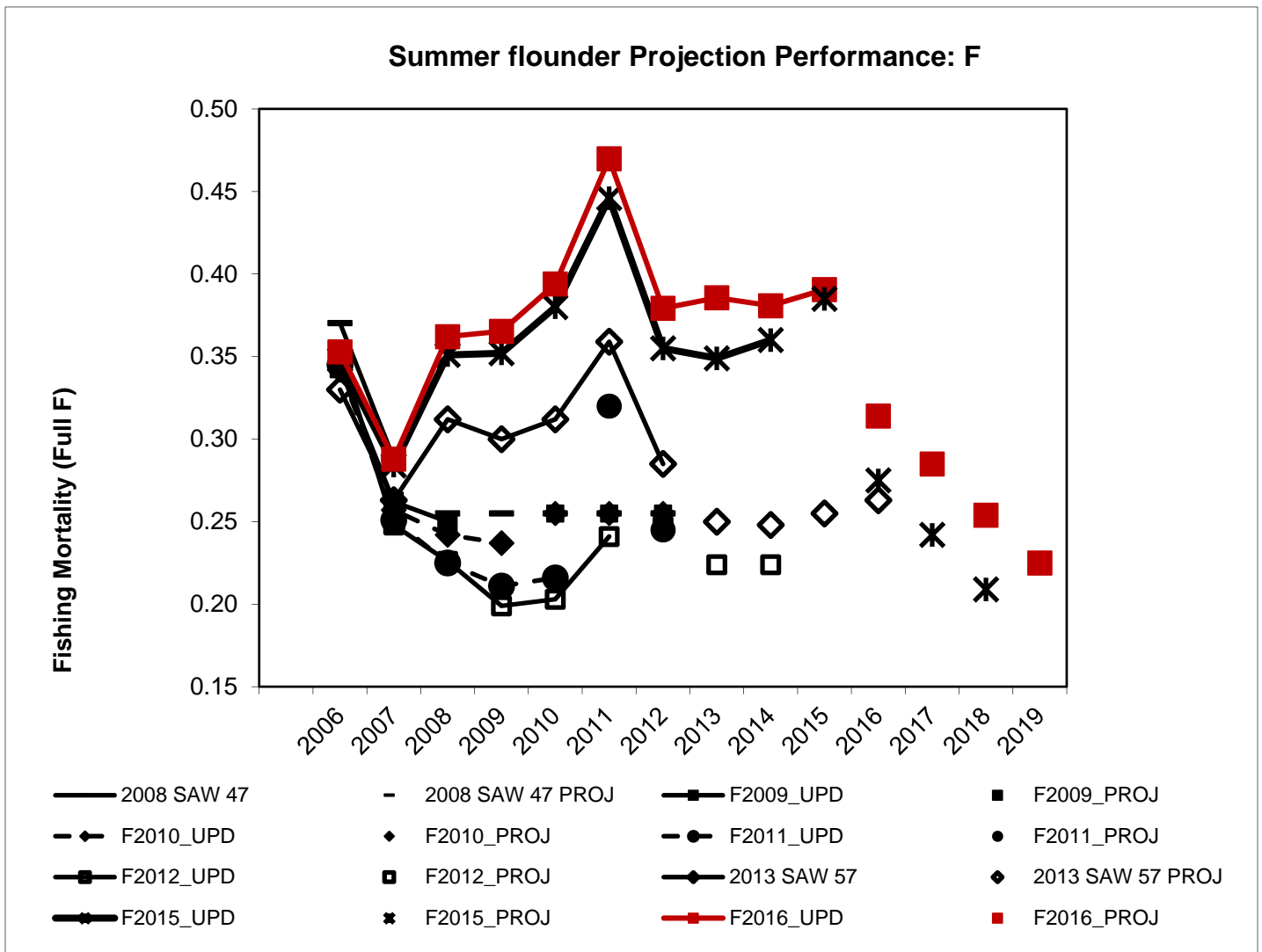


Figure 11. Comparison of estimated and projected fishing mortality (F, age 4) from the 2008 through 2016 assessments. The F2016 assessment F projected for 2016-2019 corresponds to the projected 'Phase-In' preliminary ABCs that are not yet approved.

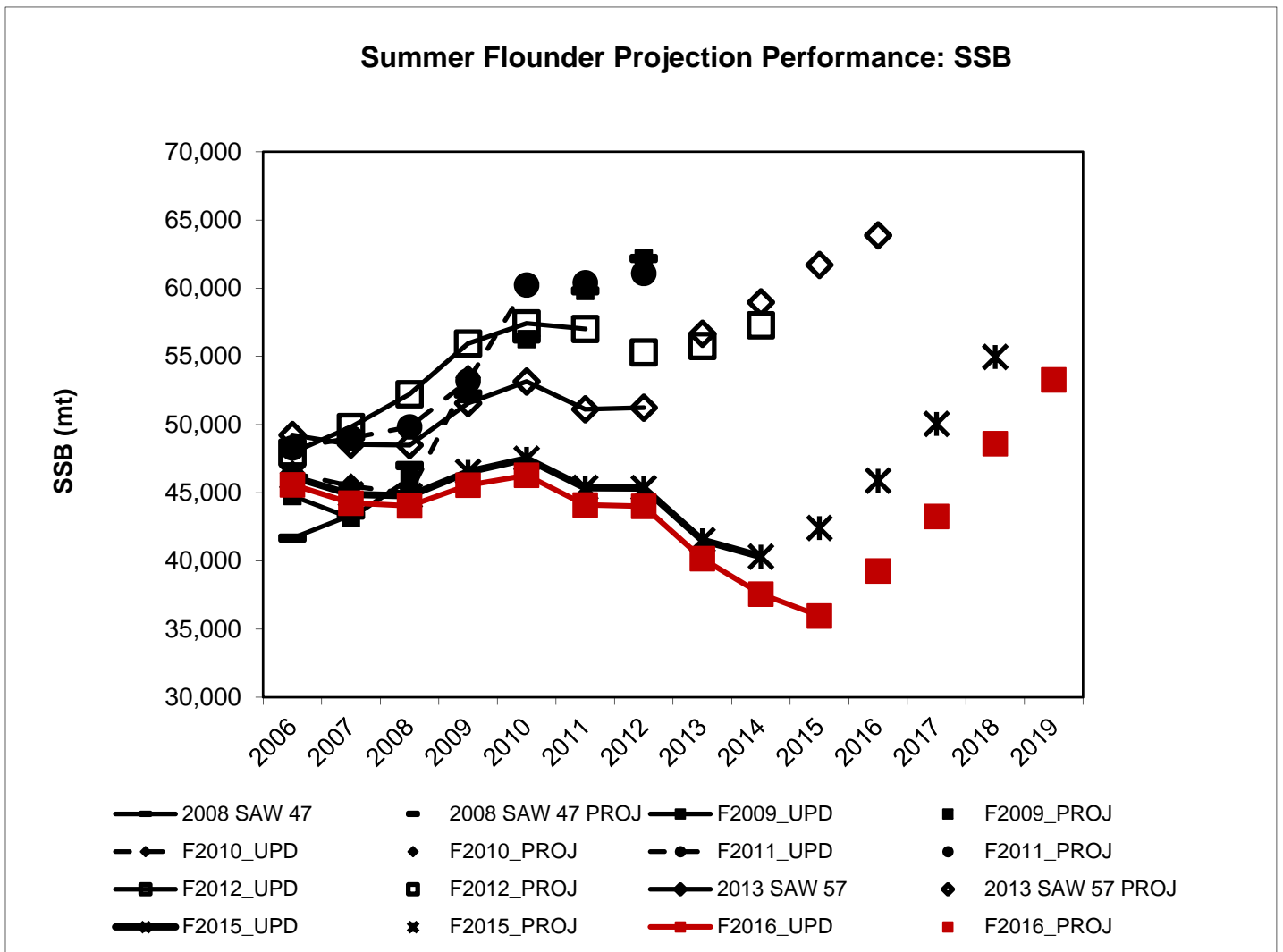


Figure 12. Comparison of estimated and projected Spawning Stock Biomass (SSB) from the 2008 through 2016 assessments. The F2016 assessment SSB projected for 2016-2018 corresponds to the projected 'Phase-In' preliminary ABCs that are not yet approved.



Summer Flounder, Scup, and Black Sea Bass Fishery Performance Reports June 2016

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 22, 2016. Advisors reviewed Fishery Information Documents for all three species and developed Fishery Performance Reports based on advisor perspectives on catch and landings patterns and other trends in these fisheries. **Please note:** Advisor comments described below are not necessarily consensus or majority statements.

Council Advisory Panel members present: James Fletcher (NC), Lisa Poyer (NY), Jeffrey Gutman (NJ), Meade Amory* (VA), Robert Ruhle (NC), Carl Benson (NJ), Joan Berko (NJ), Denny Dobbins (VA), Harry Doernte (VA), Jan McDowell (VA), Michael Plaia* (RI)

Commission Advisory Panel members present: Meade Amory* (VA), Robert Busby (NY), Greg DiDomencio (NJ), James Tietje (MA), Michael Hall (RI), Michael Ireland (NC), Michael Plaia* (RI), Brent Fulcher (NC, proxy for Robbie Mercer)

Others present: Julia Beaty (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Kiley Dancy (MAFMC Staff), Mark Holliday (MAFMC SSC), Doug Lipton (MAFMC SSC), Mike Luisi (MAFMC/ASMFC), Barbara Hutniczak (NOAA), David Bush (North Carolina Fisheries Association)

*Serves on both Council and Commission Advisory Panels.

Summer Flounder

General Management Issues

Many advisors spoke of the need to address both commercial and recreational discards, indicating that management should focus on reducing waste and utilizing more of the catch.

One advisor expressed concern regarding a potential New England Fishery Management Council request for joint management of summer flounder, scup, and black sea bass. This advisor mentioned past donations of commercial quota from New Jersey to several northern states to address quota shortages, under the agreement that these northern states would take further reductions and additional actions to improve the management of their fisheries; however, it seems this never happened. This advisor indicated that management by the Mid-Atlantic Council, the Commission, and the states has been working well.

Advisors expressed some concern regarding the summer flounder stock assessment. One advisor expressed frustration that scientists cannot figure out the retrospective bias, which he believes originates from an inaccurate recreational discard mortality rate assumption and problematic

studies used to determine this rate. This advisor stated that discard mortality rate studies need to properly account for predation, and that if the assumed recreational discard mortality rate were increased to 45%, this would solve the retrospective bias problem.

An advisor who also participates on the Northeast Trawl AP spoke in support of a recommendation from that AP for a new flatfish survey to augment the current Northeast Fisheries Science Center (NEFSC) spring and fall surveys. He described recent work comparing different trawl configurations, which appears to show that chain sweep gear is much more efficient at catching flatfish compared to roller gear. While overall trends were similar between the two gear configurations, the current gear configuration caught substantially fewer fish aged 3 years and under. He believes this may be contributing to the issues with the assessment including low observed recruitment.

Environmental and Ecological Issues

There was general discussion regarding whether summer flounder biomass has shifted to the northeast due to climate change or due to a stock expansion as the result of rebuilding. Several advisors who spoke to this issue believed that summer flounder weren't necessarily moving in terms of the center of biomass, but rather spreading out, resulting in more biomass to the north.

Commercial Management Issues

A commercial fisherman who has been catching flounder for several decades indicated that he used to have to go much further offshore and as far north as the Hague line to target flounder, which is no longer the case. East of Nantucket there are always large and jumbo fish, with no small fish. The fish have started to move to the north side of Georges Bank where they've never gone before.

Several advisors indicated that the distribution of commercial summer flounder landings is strongly influenced by regulations requiring the use of Turtle Excluder Devices (TEDs) at the southern end of the management unit. Several advisors noted that NMFS's current regulations are burdensome to commercial fishermen operating in the south due to the materials and configuration required for TEDs. One advisor noted that the aluminum TED requirement is a problem, and that pre-stressed cable TEDs would be better but are currently not approved by NMFS.

One advisor asked about Rhode Island hook and line permits, as he has been told there are around 700. If this is true, he would like to know how they are contributing to landings.

A commercial representative thought the commercial trawl fishery should not have both minimum mesh size restrictions and minimum fish size restrictions. Several other advisors agreed that regulatory discards could be reduced by reducing or eliminating the minimum size, but keeping the minimum mesh size.

One advisor requested an exploration of the option for unused commercial quota to roll over from one year to the next. States currently attempt to harvest all of their quota because they know they will lose it, which can cause overages and safety issues.

Recreational Management Issues

MRIP and Recreational Data Collection

Advisors discussed perceived deficiencies in recreational data derived from the Marine Recreational Information Program (MRIP). Several advisors agreed that NMFS should use a mobile application for collecting recreational data in place of or to supplement the existing survey system. Information collected from the commercial fishery has grown increasingly accurate with many requirements for reporting, and improvements should be made on the recreational side, advisors argued. Similar to comments made last year, it was noted that when hunters buy a license, they have a responsibility to buy tags and report their activity. A few advisors thought that when people buy a fishing license, they should have a similar requirement.

General Recreational Comments

An advisor from New Jersey noted that in last year's discussion, it was implied that recreational catch was lower in many areas due to a drop in biomass; however, in his opinion it was due to temperature. Catch last year was down about 50%, but it's back up this year, indicating that 2015 may have been an anomaly. Fisheries in the Raritan Bay are having a banner year based on fishing reports, with similar reports coming from other areas of New Jersey. Boats are limiting out with fish that are 20 to 23 inches on average. This advisor expects that the fishery will exceed the harvest limit for 2016 by a significant margin if this trend continues.

Several commercial affiliated advisors expressed frustration with the lack of direct pound for pound paybacks for recreational overages, with one advisor stating that this does not comply with the Magnuson Act. Many felt that the same paybacks that apply to the commercial fishery should also apply to the recreational fishery.

There is significant concern among advisors regarding recreational discards, as well as the impacts to the stock from recreational anglers targeting large females due to high size limits. As size limits increase, discards have increased as well. A few advisors believe that the current assumed recreational discard mortality rate may be an underestimate. One advisor noted that improved studies estimating discard mortality rates are very expensive and very difficult to execute with proper consideration of all relevant variables (e.g., predation, depth, etc.). His proposed solution is a total discard ban for the recreational fishery. The Council Vision & Strategic Plan includes reducing discards; however, he believes that managers should be considering discard elimination. He noted that we should be taking more small fish that may have a 50% chance of spawning rather than those that are bigger, more successful spawners.

A few advisors also supported alternative recreational management strategies beyond the current bag, size, and season adjustments, such as implementing a slot limit or a cumulative length limit with mandatory retention (i.e., keeping any size fish up to a certain total number of inches). Another advisor suggested a set of multiple slot limits (i.e., keep two fish 16-18 inches, two fish above 18 inches, etc.).

Scup

Environmental and Ecological Issues

One advisor who is heavily involved with the Northeast Area Monitoring and Assessment Program (NEAMAP) inshore bottom trawl survey said that Spawning Stock Biomass (SSB) naturally fluctuates each year. He thought the fluctuations in SSB shown in stock assessments are partly the result of natural causes and partly due to issues with the bottom trawl surveys, including the NEAMAP and NEFSC bottom trawl surveys. He saw little change in scup recruitment based on NEAMAP catches.

Market and Economic Issues

One advisor said the price of scup is driven by imported fish. He argued that the market for scup was once stronger, but regulations including the minimum fish size and low commercial quotas during the rebuilding period caused market demand to switch to alternatives such as tilapia. He said many consumers prefer small scup and that removing or reducing the minimum fish size requirement in the commercial fishery could help improve the market. Another advisor said that large scup brought high prices in the 1980's, sometimes selling for over \$2 per pound, but that regulations put in place during the 1990's weakened the market and caused prices to drop.

Two other advisors said the market for scup is strong and improving. They cited recent prices as high as \$1.50 during the Winter I quota period. Scup prices are typically lower in Winter I than in the other quota periods, largely due to a high possession limit (50,000 pounds), which can lead to market gluts. These two advisors said the winter market is improving as the fishery has focused more on the fresh market and as fishermen have been carefully timing their landings to encourage high prices. One advisor said that although competition and imports do affect scup prices, he believes that prices in recent years have been more heavily influenced by demand, timing, product quality, and the strength of the fresh market. Another advisor agreed that the market is largely regulated by supply and demand and that fishermen try to "catch the market right" in order to get the best prices.

One advisor who operates a party boat saw potential for higher demand for large scup with better marketing. He said large scup can be filleted and made into fish and chips.

General Management Issues

Multiple advisors expressed a desire to reduce discards in both the commercial and recreational fisheries. Comments specific to each sector are described in later sections.

According to the most recent benchmark stock assessment, scup SSB is well above the target, but has trended downwards over the past few years. SSB is projected to continue to decline over the next few years while still remaining well above the target biomass. For this reason, the commercial quotas and recreational harvest limits will decrease over 2016 through 2018. One advisor said that the Council shouldn't deprive commercial and recreational fishermen access to scup when biomass is so far above the target. He said the decreases in the quotas and recreational harvest limits over 2016-2018 seemed counter-intuitive. He said in general there are no major problems with the scup fisheries because both the commercial and recreational fisheries are landing below their limits;

however, if landings approach the landings limits in the future, and SSB continues to trend downward, it could create problems.

Commercial Management Issues

Commercial scup landings have been at least 20% below the annual commercial quota since 2010.

A few advisors recommended changes to the commercial scup quota periods and quota rollover provisions. One advisor recommended allowing unused quota from Winter I to rollover into the Summer period, instead of into the Winter II period. This would allow for more scup to be landed by smaller boats during the summer when prices are typically higher than during the winter, he argued. Another advisor used a similar argument when recommending that October be moved from the Summer period to the Winter II period. Winter II has a higher scup possession limit than the Summer quota period; therefore, moving October to the Winter II period could allow for higher landings during that month.

One advisor argued that trawl vessels should not be subject to a minimum fish size for scup given that they are required to either use mesh that is 5.0 inches in diameter or larger or are restricted to incidental possession limits if they use smaller mesh. He argued that both the minimum mesh size and the incidental possession limits for small mesh are designed to reduce catch of juvenile scup. He argued that trawl vessels should be allowed to retain all sizes of scup given the very high mortality rate for scup caught in trawl nets (assumed 100% mortality). Allowing trawl vessels to retain small scup would increase landings and reduce dead discards. He thought other commercial gear types should still be subject to a minimum scup size given that discard mortality rates for other gear types are much lower. Two other advisors agreed and said there are a variety of tools to help enforcement agents distinguish between gear types, such as pre trip notification systems. A few advisors cited examples of other fisheries where regulations allow for a certain amount of juvenile fish to be landed. One advisor said a certain percentage of the total allowable catch in a Canadian haddock fishery can be used for landings of juvenile fish and the fishery is closed once that percentage is reached. Multiple advisors argued that eliminating the minimum fish size for trawl vessels would not pose insurmountable enforcement problems and would be worthwhile because it would reduce regulatory discards.

One advisor argued that eliminating the minimum fish size for the trawl fishery would bring smaller scup to the market. He said there is high demand for small, single-serving sized scup.

Another advisor did not support the recommendation to eliminate the minimum fish size for the trawl fishery because he did not want to encourage targeting of small scup. He recommended that the minimum fish size be reduced from nine inches to eight inches.

Recreational Management Issues

A few advisors discussed possible methods of reducing scup discards in the recreational fishery. One advisor suggested liberalizing some of the recreational management measures to reduce discards and increase recreational landings, which have been well below the recreational harvest limit since 2011. One advisor recommended eliminating the minimum fish size in the recreational fishery to reduce discards, at least during times when landings are well below the recreational harvest limit and spawning stock biomass is well above the target, as it is currently. Another advisor agreed and also recommended that discarding be discouraged and that anglers be

encouraged, but not required, to use certain hook sizes to reduce discards. Another advisor pointed out that discard mortality rates in the recreational fishery are low; therefore, high recreational discards do not necessarily cause high discard mortality.

One advisor argued that the recreational bag limits for scup in state waters should be increased. He thought this should be done as a good will measure to restore credibility in the management system. He argued that this credibility was damaged when the Scientific and Statistical Committee rejected the recommendations of the stock assessment peer review group and set measures which were more precautionary than those recommended by the peer review (i.e., they used a 60% OFL CV rather than a 30% CV). He argued that an increase in the bag limit would do more to increase angler satisfaction than decreasing the size limit because anglers are currently catching lots of large scup. Increasing the state waters bag limits up to 50 scup, as allowed in federal waters, could benefit the small number of party/charter vessels which run “freezer filler” trips. He thought most anglers wouldn’t keep more than 20 scup, but a small number of anglers would prefer to keep 50.

One advisor and party boat captain from Massachusetts said that when scup bag limits were higher, and when there were no bag limits, party boats would typically have one long trip per day and now they typically fit two shorter trips into one day. He preferred the current system of two trips per day. He was concerned that if the scup bag limit were higher than 45 fish, some customers would want the trips to last longer. He argued that the party boat industry in Massachusetts is doing well under the current scup regulations and that any major changes could have negative economic impacts.

Another advisor from Virginia said he also prefers half-day trips; however, he thought an increase in the scup bag limit would not lead to a major change in angler behavior because few anglers would want to keep 50 scup.

One advisor asked if unused commercial quota from the Winter I period could be transferred to the recreational fishery. Another advisor said this would not benefit the recreational fishery substantially since recreational landings are already well below the recreational harvest limit. He argued that liberalizing the recreational measures would be more beneficial than increasing the recreational harvest limit.

Research Recommendations

One advisor asked about past studies on scup discard mortality rates in both commercial and recreational fisheries. He was specifically interested in whether any past studies used holding tanks to assess discard mortality rates.

Black Sea Bass

Market and Economic Issues

One advisor noted that the combination of low quotas and high demand for black sea bass has led to a huge problem with poaching and illegal sales. There are many buyers willing to buy sea bass illegally from anyone who will sell it. This is becoming a bigger and bigger problem, and many are taking big risks to catch and sell sea bass.

Environmental and Ecological Issues

On advisor noted that last year the water was very cold and stayed cold well into summer. This year, inshore salinity has been higher, which may be resulting in higher abundance.

In general, advisors commented that they were seeing a huge abundance of black sea bass in many areas that is not reflected by the current quotas. Black sea bass are eating a lot of other commercially and ecologically important species, such as lobster. One advisor noted an abundance of juvenile sea bass in several nearshore areas and bays.

General Management Issues

Many advisors called for increased quotas for the commercial and recreational black sea bass fisheries.

Commercial Management Issues

On the commercial side, data indicating that landings have been higher for trawlers in recent years may be due to a combination of weather and state management. In New Jersey, where the commercial season is split into quarters, the colder winter in 2015 meant that during the second fishing period in April, the fish were still offshore. Trawlers therefore caught this quota, and the potters didn't get to fish until July. In 2016, it has not been as bad. This issue is causing frustration due to the lack of flexibility in state management; for example, not being able to split up regulations by gear type.

Another advisor from New Jersey commented that black sea bass at this point is not generally a directed fishery given the current quotas. Managers should not read too much into catch patterns, since everything is affected by management under low quotas. Landings are not necessarily a proxy for abundance.

As with summer flounder and scup, several commercial advisors agreed that in the black sea bass directed fishery, a minimum fish size should be eliminated for vessels fishing with an appropriate mesh size, in order to reduce regulatory discards.

Several advisors again noted that any commercial quota not caught in a given year should be rolled over into the next year.

Recreational Management Issues

MRIP and Recreational Data Collection

Advisors spent considerable time discussing perceived problems with the MRIP estimates for black sea bass. Some advisors questioned staff about the improvements made in the transition from

the Marine Recreational Fisheries Statistics Survey (MRFSS) to MRIP. The advisors also questioned the precision of the MRIP data.

Many advisors expressed concern and frustration regarding the late release of the final MRIP estimates for 2015 (mid-June as opposed to expected mid-April), and felt that NMFS needs to adequately explain why the final numbers were delayed. Many advisors feel that the states are now in an unfair position where they are expected to respond to these new estimates mid-season in an unreasonable timeframe.

Much of the increase between preliminary and final MRIP estimates for black sea bass was due to a large jump in New York Wave 4 party/charter landings, which several advisors said were completely unreasonable. One advisor suggested that instead of adjusting this year, if it is absolutely necessary to account for the new numbers, it should be adjusted in 2017 instead to allow the states to respond more reasonably and equitably. Over the time series presented in the Fishery Information Document, there is huge variation in landings by mode from year to year that doesn't seem to reflect general annual landings trends.

Several advisors agreed that we have very precise and timely information on commercial and party/charter landings, but virtually nonexistent information for the private recreational sector. Many advisors agreed that there is a serious need to consider alternative ways of collecting recreational data. As discussed for summer flounder, several advisors suggested mobile applications to collect recreational data. One advisor suggested making reporting via a mobile app mandatory for private anglers fishing in the EEZ. Many private boats have access to private docks and are not being adequately captured by intercepts.

In response, one advisor noted that most fishermen believe that the more fish they report, the more restrictive the regulations will be in the following year. This advisor felt that voluntary reporting would not work, and remarked that it has been shown not to work for some highly migratory species, where underreporting is common. It would be extremely difficult or impossible to mandate reporting for private anglers and it cannot be reasonably enforced. Other advisors responded that reporting should be mandatory and tied to a saltwater license, with requirements for anglers to declare that they are going fishing and with the possibility of a citation if they don't. These advisors noted that many in the for-hire and commercial sector fought reporting when it was first instituted, and resistance in the private sector needs to be similarly overcome.

Another advisor noted that MRIP numbers currently include some illegal landings, meaning that some people are keeping undersize fish and admitting it to an interviewer. This indicates that many people do not follow regulations at all and are not going to report accurately or at all. However, several advisors still believed that a reporting system, though not perfect, would be better than the current MRIP system.

General Recreational Comments

Non-compliance and angler confusion are huge issues with black sea bass due to low quotas and high availability, as states are forced to implement low bag limits, restrictive seasons, and high size limits. One advisor noted that although the season in New York has not technically been open, anglers are behaving as though the sea bass season has been open for a month. For both charter boats and private boats it has appeared to be a free-for-all. In some areas such as the west end of Long Island, people know that when the season opens, they will find very few 15-inch fish. In

addition, those who are currently fishing illegally out of season see no need to comply with the size limit or bag limit. This is an enforcement issue, but it's occurring because people have no confidence in the system and therefore they are disregarding the system. New York may have high landings again this year, since MRIP always captures catch when season is open, and New York has a lot of open days as they have favored going to larger fish in order to keep days open. Others agreed that in some areas it is very rare to find a fish over 15 inches, and management should reconsider the use of such high size limits.

Many commercial advisors expressed frustration with the recreational fishery continually exceeding the annual harvest limit and facing no direct pound-for-pound paybacks. These advisors agreed that recreational anglers should follow the rules despite the low quotas, since commercial vessels face a number of consequences if they do not comply with regulations designed to control harvest. These advisors believed there needs to be more appropriate penalties for the recreational sector given the magnitude of recent overages.

Research Needs

Several advisors suggested that alternative means of recreational data collection need to be a top research priority.

One advisor suggested that additional tagging studies were needed to further explore the possibility of separate population segments within the management unit.

June 10, 2016

Dear Mr Moore

As an advisory Panel member, I believe that we should pay special attention to Black SeaBass management efforts. In particular, we need to consider the methodology being used to establish annual catch limits, and the state by state allocation of recreational seabass quotas.

With respect to state recreational quotas, it seems as if history is repeating itself, and managers making the same mistakes that they had made when managing fluke. Once again, neighboring states have wildly different regulations, which lead to angler discontent. It also leads to noncompliance, as fishermen in New York, which have a season that doesn't open until July, look at their counterparts in neighboring states keeping black sea bass during May, and decide that they can do the same thing, whether or not the law allows. Such non-compliance issue is on the rise. It seems as if black sea bass management is going backwards, and the sea bass are paying the price.

With respect to black sea bass management, I am hoping that the upcoming stock assessment is a good one. Fishermen are seeing an abundance of fish, yet are fishing pursuant to very strict regulations. That is raising doubts in their mind as to the quality of fisheries management, and making them more likely to ignore regulations. If they are ever to have faith in fishery management again, they need a stock assessment that reflects the reality that they see on the water; their confidence level is very low right now.

Despite the abundance of black sea bass that we see every day off Long Island, our recreational black sea bass season doesn't start until July. That inevitably leads to widespread non-compliance, since the fish arrive in local waters by May. This year, given the required reduction in landings, New York increased its size limit to 15 inches in order to maintain a reasonable season. Bigger is not better. Even with 2015's 14 inch minimum size, 30% of the fish harvested by anglers were undersized. Now that New York will adopt a 15 inch size limit, the writing is on the wall. I believe that the non-compliance rate will be at least 50%, and even that may be too conservative. New York is surrounded by states fishing the same waters, which have adopted different seasons, sizes and bag limits. Does it sound like anything we know (perhaps former fluke management)? Why can't we learn from our own mistakes.

On the commercial side, New York fishermen are given a 50 lbs per day quota. Dragger trawl, get 300 lbs of fish, select their 50 lbs of jumbos and discard 250 lbs. of fish. It makes no sense. With a mere 50 lbs NY quota, gear should be restricted to rod and reel fishing only to avoid so many discards, or the daily quotas should be aggregated into weekly quotas that allow fishermen to land multiple days' quotas in a single day, and then refrain from fishing for the rest of the week.

I have become very frustrated with this VPM—Very Poor Management—process, and just want to make this already strong fishery even stronger. If the upcoming stock assessment is

rejected, we can't be sure that Jason McNamee can pull another 1,000,000 lbs of black sea bass of out his magical hat, although he seems to be pretty good at it. Yet without some improvement in the management process, which allows fishermen to renew their faith in the data and the management system, they will lose whatever confidence in the system they may still have, non-compliance rates will grow even larger and the fishery will spin completely out of managers' control.

Thank you for considering my thoughts.

Captain Steven R. Witthuhn
AP Black Sea Bass

Dancy, Kiley

From: James Fletcher <unfa34@gmail.com>
Sent: Thursday, June 16, 2016 1:52 PM
To: Dancy, Kiley
Subject: Re: Materials for June 22 SF/S/BSB Advisory Panel meeting

NEED FOR APP REPORTING ON RECREATIONAL!!! Please look at 81% recreational caught from private boats. These BOATS ARE NOT SAMPLED BY DOCK SIDE DATA GATHERERS, Our recreational catch is 81% off, MUST HAVE TOTAL LENGTH & NO DISCARDS!!! The stock assessment refused to look at DATA to see where male fish were encountered in large numbers. WHAT GOOD IS SO CALLED SCIENCE IF THEY WILL NOT UTILIZE THE DATA AS TO WHERE MALES FLOUNDERS ARE FOUND IN SURVEY? PDT SHOULD BE ABLE TO MODEL 40 TO 60 INCHES OF FISH WITH NO DISCARDS! *THE STOCK ASSESSMENT SCIENCE REFUSES TO LOOK FOR WHERE MALE FISH ARE FOUND! THE STOCK ASSESSMENT IS A SICK JOKE!*

From: James Fletcher [mailto:unfa34@gmail.com]
Sent: Friday, June 17, 2016 11:10 AM
To: Beaty, Julia <jbeaty@mafmc.org>
Subject: Inter Research » MEPS » v250 » p263-278 Enhancement of Summer Flounder?

<http://www.int-res.com/abstracts/meps/v250/p263-278/> Can we Discuss regulations that will allow RANCHING [GROWING FISH FROM ONE SIZE TO ANOTHER] *ILLEGAL TO POSSESS A DEAD FISH BELOW A SIZE. RECREATIONAL ILLEGAL TO RETURN ANY FISH TO WATER. THIS WOULD REDUCE SUMMER FLOUNDER BSB & SCUP DISCARDS.*

AS I WROTE EARLIER; WE HAVE NO SAMPLING OF 70 TO 80 % OF PRIVATE BOATS USING PRIVATE DOCK. THE PHONE SURVEY WOULD ONLY COVER A SMALL PERCENTAGE, APP FOR ALL RECREATIONAL FISHING IN EEZ THIS IS MAINLY PRIVATE BOATS AT PRIVATE DOCKS. Council with private docks should not be able to vote on this issue.

--
James Fletcher
United National Fisherman's Association
123 Apple Rd.
Manns Harbor, NC 27953
252-473-3287

-----Original Message-----

From: James Fletcher [mailto:unfa34@gmail.com]

Sent: Friday, June 17, 2016 11:15 AM

To: Beaty, Julia <jbeaty@mafmc.org>; ARTHUR D SMITH <artsmith@gotricounty.com>

Subject: Flounder Stock Enhancement: - Walsh_04192012.pdf

http://www.lib.noaa.gov/about/news/Walsh_04192012.pdf ENHANCEMENT

--

James Fletcher

United National Fisherman's Association

123 Apple Rd.

Manns Harbor, NC 27953

252-473-3287

-----Original Message-----

From: James Fletcher [mailto:unfa34@gmail.com]

Sent: Friday, June 17, 2016 11:34 AM

To: Beaty, Julia <jbeaty@mafmc.org>; ARTHUR D SMITH <artsmith@gotricounty.com>; Rob Oreilly <rob.oreilly@mrc.virginia.gov>

Subject: Fishery Journal - 37_fisheryjournal_1991.pdf

http://global.yamaha-motor.com/business/omdo/project/fishery/journal/pdf/37_fisheryjournal_1991.pdf

THIS IS 1980'S SCIENCE & TECHNOLOGY. WHEN WILL MID ATLANTIC FISHERY

MANAGEMENT DISCUSS ENHANCEMENT & RANCHING OF SUMMER FLOUNDERS?

PLEASE FORWARD TO ADVISERS AND READ PORTION CONCERNING STOCK ENHANCEMENT.

--

James Fletcher

United National Fisherman's Association

123 Apple Rd.

Manns Harbor, NC 27953

252-473-3287

From: Ken Neill [mailto:jackcrevelle@msn.com]
Sent: Monday, June 20, 2016 2:56 PM
To: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>
Subject: RE: Additional Materials for June 22 SF/S/BSB Advisory Panel meeting

I will not be able to make the meeting. A couple comments:

Sea bass appear to be very abundant. Virginia's fishery is different than that to our north. Wintertime was when sea bass were the most important to our charter and private boat fisheries. Without collecting wave 1 data, that was missed in the numbers. You can look at our trophy fish citation data from years when our wintertime fishery was open to the years it has been closed and you will see a huge difference in sea bass over 5 pounds being registered by Virginia's recreational anglers. Someday, we would like our wintertime fishery back.

Virginia's flounder fishery is not what it once was. I think that has more to do with fish movement than the overall health of the stock.

Dr. Ken Neill, III
IGFA Representative
President, Peninsula Salt Water Sport Fisherman's Association, Inc.
Associate Commissioner Virginia Marine Resources Commission
www.igfa.org
www.pswsfa.com
www.vbsf-hookedup.net/healthygrin/
www.facebook.com/HealthyGrinSportFishing
www.NeillDental.com
www.facebook.com/NeillFamilyAndCosmeticDentalCare

Dancy, Kiley

From: Monty Hawkins <capt.montyhawkins@gmail.com>
Sent: Tuesday, June 21, 2016 5:54 AM
To: Dancy, Kiley
Subject: Re: Materials for June 22 SF/S/BSB Advisory Panel meeting

Hi Kiley,

Please send these calculations & letter to the AP.

Sales are not strong. I cannot afford to attend this upcoming AP meeting.

Thanks,

Monty

Good Folks,

I understand NY now has a 3 sea bass limit & they must be 15 inches to keep. (perhaps age 4 or 5) Rhode Island will have a one fish limit later this summer.. When this regulatory cancer comes south, my already-anemic business model will collapse.

Prior to management, the For-Hire industry's 5 year average annual landings was 3.6 million sea bass. A huge proportion of those fish would have been age 1 (or even age zero in late fall.)

At sea bass management's dawning, when the first size limit was 9 inches, we landed (by MRFSS' calculation) .75 million sea bass. The following year it was .5 million.

As these 3 million youngsters we were not catching & keeping aged, they grew into the size limit. Our 5 year average with no creel limit whatever (but a size limit from 10 to 12 inches) was 1.3 million sea bass annually.

In 2003, the second year of a 25 sea bass limit, the species quite nearly matched it's all time recorded high. (Which wouldn't begin to equal the stock in, say, 1950; but I haven't seen that graph. That's the real 'rebuilding' target..)

Still, by 2000 abundance was fantastic -- management a resounding success.

After that initial stutter in '98/'99 as regulation first began; by 2000 were saving 2.3 million sea bass annually; fish that were no longer being kept - but had recently been - in early management.

Now many years into management, & assuming a 12 year average life, there should be roughly 27.6 million extra sea bass owing only to pre-creel limit recreational management with no closures to be found..

Because anyone who ever took a course in fisheries 'knows' it takes Big Old Fecund Females (BOFF) to 'regenerate' a fishery with ample spawn, and because large female sea bass make the greatest part of today's stock, the 27.6 million 'saved' fish should only be a base-line for unprecedented many-fold increases in spawning production.

Then too a large swath of rocky SNE coast has newly become a spawning ground; a great & grand new region of warm shallow-water reef contributing wonderfully to sea bass production ..while at its eastern edge seals have fully regained their southern historical habitat footprint.

And, of course, today too we have long closed seasons--growing longer.

And we have ever-increasing size limits.

And we have shrinking creel limits.

So, from that base of 27.6 million sea bass 'saved' at any one time with no creel limit and no closed season at all, there should now be an incredibly greater 'saved' sea bass population as regulation's grip chokes commerce nearly to death.

Why isn't it working out?

It is my conviction that allowing a lie, first called MRFSS & now MRIP, to hold a singularly important role in sea bass regulation that caused early management's wonderful success to come undone.

Today the For-Hire fishery's 5 year average is .5 million fish. From our pre-management 5 year average of 3.6 million sea bass per year ..to just .5 million.

That should mean (without calculating new vast reaches of reef habitat's production & no rocket-like spawning boost from BOFF) that at any one time there's 36.4 million sea bass we did not take that we once would have.

Be some big sea bass in that cohort...

And we're overfishing? Ohhh! It's the little plastic boats MRIP tells you now have greater power than factory trawl..

As Ajax, mightiest of mortal Greek warriors, fell into madness & roamed the night slaying sheep as his enemy; so too has today's management gone mad.

Please. The incredible power of fisheries management cannot be found in calculations using data you know to be false.

History's bookshelves sag deeply with "We had to do it" ..no doubt humanity's darkest hours were always supported by the 'best available information.'

With knowledge of Factual Spawning Production most important near-term; then Habitat, & Real Values For Recreational Catch allowing a factual extraction-based regulatory model; the only cap to sea bass would be what population you desire.

Kill an industry? ..or truly rebuild a fishery to its post WWII heyday.
The path you choose decides.

I wish you wisdom.

Regards,
Monty

Capt. Monty Hawkins
capt.montyhawkins@gmail.com
Partyboat Morning Star
<http://morningstarfishing.com>
Ocean City, MD

Your Query Parameters:

Query: MRIP CATCH TIME SERIES
Year: 1990 - 2015
Wave: ANNUAL
Species: BLACK SEA BASS
Geographic Area: NORTH AND MID-ATLANTIC
Fishing Mode: ALL FOR-HIRE MODES COMBINED
Fishing Area: ALL AREAS COMBINED
Type of Catch: HARVEST (TYPE A + B1)
Information: NUMBERS OF FISH

**Review the [glossary](#) for a description of how the for-hire survey methods have changed over time.

Return to Query Page

Estimate Status	Year	Common Name	Total Harvest (A+B1)	PSE
FINAL	1990	BLACK SEA BASS	2,180,198	12.2
FINAL	1991	BLACK SEA BASS	2,534,397	12.3
FINAL	1992	BLACK SEA BASS	1,960,095	11.8

Estimate Status	Year	Common Name	Total Harvest (A+B1)	PSE
FINAL	1993	BLACK SEA BASS	4,537,560	25.3
FINAL	1994	BLACK SEA BASS	1,951,899	15.0
FINAL	1995	BLACK SEA BASS	5,130,781	18.1
FINAL	1996	BLACK SEA BASS	2,556,415	13.0
FINAL	1997	BLACK SEA BASS	3,922,326	10.5
FINAL	1998	BLACK SEA BASS	743,416	16.2
FINAL	1999	BLACK SEA BASS	586,774	15.4
FINAL	2000	BLACK SEA BASS	1,787,573	12.7
FINAL	2001	BLACK SEA BASS	1,793,849	8.0
FINAL	2002	BLACK SEA BASS	2,036,765	7.0
FINAL	2003	BLACK SEA BASS	2,034,865	5.8
FINAL	2004	BLACK SEA BASS	669,047	20.4
FINAL	2005	BLACK SEA BASS	527,479	14.1
FINAL	2006	BLACK SEA BASS	699,306	10.9
FINAL	2007	BLACK SEA BASS	895,911	10.8
FINAL	2008	BLACK SEA BASS	466,279	14.2
FINAL	2009	BLACK SEA BASS	417,427	11.6
FINAL	2010	BLACK SEA BASS	454,642	13.1
FINAL	2011	BLACK SEA BASS	278,468	17.4
FINAL	2012	BLACK SEA BASS	675,907	11.7
FINAL	2013	BLACK SEA BASS	261,634	10.6
FINAL	2014	BLACK SEA BASS	733,013	11.4
FINAL	2015	BLACK SEA BASS	1,085,221	13.9

From: ARTHUR D SMITH [mailto:artsmith@gotricounty.com]
Sent: Monday, June 20, 2016 5:11 PM
To: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>
Cc: James Fletcher <unfa34@gmail.com>
Subject: Comments for upcomong meeting.

Kirby

I will not be able to attend the meeting in Baltimore. I have read all of the information you have provided and would like to offer the following input.

1. The scup fishery seems to be fine; no one is complaining about anything therefore I would say maintain the status quo.
2. There seems to be alot of controversy concerning BSB. Some advisors are suggesting the stock is alot stronger than the scientists say. I have no idea. For the recreational side I would suggest the following.
 - a. A coastwide quota and a coastwide opening date
 - b. None of this state by state "conservation equivelancy" I realize this has already been enacted but to me it does not make any sense. You should be able to catch x amount of fish in NY, NJ, CT with all seasons the same. This would eliminate alot of the bickering going on now. If the fish happen to be in NY this year and not NJ well that is just the way it goes.
 - c. Something new; change the possession limit from numbers of fish to pounds of fish. If you want to go fishing buy a scale just like the commercial guys have to.
For the commercial side
 - a. a coastwide quota and coastwide possession limit with seasons similar to scup. No state by state quota.
3. Summer Flounder
 - a. For the recreational side I would suggest the same measures as I suggested for BSB.

For the commercial side I suggest the status quo be maintained as to allocation, size limits, landing restrictions etc. There is talk that the stock has shifted north and that changes need to be made. I would argue that "effort" has shifted north because of gear restrictions (TEDS) and inlets that remain non-navigable in southern waters not because of declining stocks. The North Carolina fleet was responsible for most of the landings in the base period regardless of where the fish were landed. The North Carolina fleet built this fishery and I do not want to see it taken away. The status quo is aggravating in many respects now but it is preferable to the North Carolina fleet losing quota.

Having said all of the above I still feel the biggest problem in fisheries management is dead discards. Nothing is a bigger waste than this. A solution to the discards issue should be the top priority of fisheries managers.

Thank you,

Art Smith
North Carolina

Comments from Bonnie Brady, 6-22-16

1. What factors have influenced catch in recent years for summer flounder, scup, and black sea bass?
 - a. Market or economic issues? (e.g., fish prices, fuel prices, overall economy, etc.)
 1. The most important influence for any of the fisheries listed above are fuel prices. The higher the fuel prices, fishermen are less willing to travel farther offshore for a relatively small quota of fish unless there is a larger weekly trip limit and they are less likely to spend several days trying to find fish. This has not occurred in the last two years, but when prices were around \$5 a gallon, the fleet was definitely stymied economically.
 2. Weather- in the winter of 2015, many of the northeast ports (NJ/NY/CT/RI/MA) were frozen in for a long period of time, the fleet could not leave the harbor so the overall catch of many of those stocks during the early winter months may show the quota for that time period was not caught.
 3. Markets continue to improve for the scup fishery, and the price per pound in the winter was often more than \$1 per pound in 2016.
 4. In New York, due to poor accounting and/or late dealer reporting, the commercial fluke fishery for three out of the last four years was closed completely in the months of November and December, at great economic hardship during a time when the price for fluke is often the best of the year due to the holidays.
 - b. Environmental or ecological issues? (e.g., weather, predator/prey issues, etc.)
 1. See A2.
 2. Same story as in past years, abundance of black sea bass, their range seems to have widened, eating a lot of bug lobsters.
 - c. Management or regulatory issues? (e.g., management-induced effort shifts, regulatory discards, etc.)
 1. State by state quotas on fluke continue to disenfranchise NY comm fishermen. A coast wide quota or a scup-like quota model with two federal coast wide periods and a summer state by state, with more comparable percentages, should be created.
 2. Scup quotas in the Winter 1 period should be removed so that the commercial sector has the opportunity to catch their quota. For far too long, unrealistic and artificially low quotas have held the commercial sector to a lower catch, thereby opening the door to quota reallocation under the guise of not being able to catch the quota. If the quotas were to be removed, the comm industry could catch the quota.
 3. Shortening the summer period for scup by one month so that October becomes part of the Winter 2 period. This would increase the amount of quota available per day for the summer period, and allow industry an attempt to actually catch all of their quota in the Winter 2 period.

Comments from Bonnie Brady, 6-22-16

4. Council staffers have to get a better handle on the poundage for landing trips for scup. For the last three years at council meetings we have been told that NY did not have any 50,000 pound trips when we have had many. Each year the staffer says that 50g trip limits don't exist and each year I'm forced to get up and correct them. EVTR data specifically lists the overall amount of fish by dealer, and overall catch. Would be more than glad to work with council staff so that this error is not repeated for this year.
 - d. Other factors?
2. What other issues or concerns does the AP want to highlight?
 - a.
3. What comments does the AP have on the Council's list of research recommendations for summer flounder, scup, and black sea bass?

Dancy, Kiley

From: Skip Feller <sfeller3@verizon.net>
Sent: Tuesday, June 21, 2016 6:18 PM
To: Dancy, Kiley
Subject: Re: Materials for June 22 SF/S/BSB Advisory Panel meeting

Hey Kiley, I'm not going to make it tomorrow. Really my only comments are status quo! Especially now that we are trying to align the blueline season and the sea bass season! And it is very important not to lose any of our 15 fish bag limit

Thanks
Skip Feller
Rudee Angler

Sent from my iPhone 6s Plus

Dancy, Kiley

From: Monty Hawkins <capt.montyhawkins@gmail.com>
Sent: Tuesday, June 21, 2016 8:06 PM
To: Dancy, Kiley
Cc: Kirby Rootes-Murdy; Beaty, Julia; Luisi, Michael; Boreman, John; Moore, Christopher; Robins, Rick; Anderson, Lee
Subject: Smoking Gun.. Re: Materials for June 22 SF/S/BSB Advisory Panel meeting

Good Folks, (Kiley - as a comment please..)

This is the second paragraph of the MAFMC's "**Black Sea Bass Fishery Information Document June 2016**" (Sentence numbers mine)

(1) Black sea bass are protogynous hermaphrodites, meaning that they are all born female but most later transition to males, usually around 2-5 years of age. (2) Male black sea bass are either of the dominant or subordinate type. Dominant males are larger than subordinate males and develop a bright blue nuccal hump during the spawning season. (3) About half of black sea bass are sexually mature by 2 or 3 years of age and about 20 cm (about 8 inches) in length. (4) **Most black sea bass greater than 19 cm (about 7.5 inches) are either in a transitional stage between female and male or have fully transitioned to the male stage.** (5) Studies have shown that fishing pressure can decrease the age of transition from female to male. (6) Black sea bass reach a maximum size of about 60 cm (about 24 inches) and a maximum age of about 12 years.^{1,2}

Great Scott. What a mess.. I don't even know where to begin.

The highlighted section is what we saw pre-management in about a quarter to a third of the total population. These transition patterns continued into early management until 1999 or 2000. I have never seen ALL sea bass transitioned to male..

The work transitions are sourced from Reinboth, 1965; & Lavenda, 1949; (via Kendall's 1977 Sandy Hook "blue book" & here Dave Packer & John Manderson's 2007 re-edit) Biologists once thought sea bass 17 cm (6.6 inches) were age two. Sentences 1, 3, 4, & 5 all use the old age to length guides--which are fabulously wrong.

Today we know 5.5 to 9 inch fish are age one.

Yup. They grow quick & can mature fast like mahi-mahi. (or we can slow that quick maturity down - have..)

Sentence 2 is, I believe, a work in progress. No one has documented spawning behavior of sea bass at sea. We have no idea if subordinate males actually participate - we don't even know how fertilization takes place. Broadcast? Nesting? No one knows.. But we do see females in bowls adjacent to reefs... (in my experience, nuccal humps are key to judging spawning production. The younger we see them, the more productive our region's stock is.)

In sentence 4 we see the vast difference between then & now. Last year my crew & I saw just one under 9 inch male sea bass - the rest were female. This year, (I think because last

year's spawning stock was so dismal,) we are seeing more small males - but nowhere near 50% & 7.5 inches.

We may know today that these are solidly age one fish, but previous works before aging was refined certainly would have had their lengths correct.

Sentence 5 shows the key to finding management's greatest effect in a species with spawning site fidelity.. By creating an enormous spawning population of young sea bass, early management sent the population into record territory.

However, once sea bass behaved as though their habitat was at capacity (a trick of size limit & not actual population) spawning production tapered sharply as age at maturity stretched out to age 3 & 4 (or eleven to thirteen inches..)

Sentence 6 shows Lavenda's top age. Curiously, this biologist also thought female sea bass were never larger than 13.5 inches (34 CM) - yet females larger than that are an everyday/every client occurrence today.

There are more large females than ever before - ever. Yet production is ham-strung in small males' absence.....

This is your "Best Available Scientific Information" & woefully out of date.

When matched with MRIP's failings, you can see how NOAA/NMFS & Council/Commision management's "Best Available Scientific Information" strikes fear in the hearts of fishers just as the Terrors chilled French aristocracy in 1793.

Sea bass to the guillotine..

We all see the sea bass fishery's regulatory death coming. For some it's already here.

Some modern age at weight work below.

Regards,

Monty

Age WAA (g)

Age/weight from: **Estimating Black Sea Bass Natural Mortality Using Several Methods** - Julie L. Nieland and Gary R. Shepherd - October 2011

Conversion to pounds and brackets () here from M. Hawkins and of no association to the authors.

Length Conversions Computed From "BSB Probability of Age at Length Key - G. Shepherd" by M. Hawkins. No one at Woods Hole has reviewed these simple computations..

As all living things, some individual fish grow faster - we know a 4 year old sea bass @ 20.5 inches will weigh more than 1.9 pounds..

(0 - <0.25 lbs - 0 to 5.5 inches)

1 - 112.92g - 0.25 lbs- 5.5 to 9.1 inches.

- 2 - 243.19g - 0.54 lbs- 8.7 to 12.2 inches.
 - 3 - 395.48g - 0.871 lbs - (3 to 4 yrs) 10.6 to 16.1 inches.
 - 4 - 604.69g - 1.33 lbs- (4 to 7 yrs) 13.4 to 20.5 inches.
 - 5 - 861.95g - 1.90 lbs - (5 to 9 yrs) 16.5 to 22.0 inches.
 - 6 - 1279.68g - 2.82 lbs - Over 20 inches just becomes too fuzzy..
 - 7 - 1542.01g - 3.4lbs
 - 8 - 1821.36g - 4.01lbs
 - 9 - 1974.56g - 4.35 lbs
 - 10 - 2658.4g - 5.86 lbs
 - 11 - 3149.8g - 6.94 lbs
 - 12 - 3689.1g - 8.13 lbs
-

From: JDHLCL@aol.com
To: [Dancy, Kiley](#)
Subject: ap meeting
Date: Tuesday, June 21, 2016 4:18:22 PM

Hello Kiley, Julia, Kirby

Unfortunatley, i can not attend tomorrows meeting. Too much squid around and the quotas filling up fast!!!! I would like to briefly share my thoughts on each fisheries performance, as well as the summer flounder amendment,

As an offshore commercial fisherman (Dragger) I am extremely upset with the recent cutbacks in the scup and summer flounder TAC .I can honestly say each one theses fisheries is performing exceptionally well and seabass is totally mismanaged.

The trawl survey wants us all to believe scup are disappearing, fluke are extinct, and black seabass is caught by accident..We all know this is far from the truth..If it were not for the bigelow towing around a net that is not performing correctly, breaking down every other year and ending the survey later and later each year,(by the way if climate change is really occuring, the survey should be done earlier, when the fish are not migrating inshore) no cut backs would have occured.

I dont have a lot to say about seabass other than, the fishermans cries ,both recreational and commercial, must not go unheard..they are everywhere..I mean right to the Hauge line .Anecdotal information needs to be more highly regarded in the quota setting process .

I strongly believe that the current legal codend size for seabass should be raised to the same as scup. For that matter so should the quota...With seabass quotas as low as they are there is no reason to tow around anything smaller than 5 inch mesh.

As for summer flounder, boats are seeing all years classes and plenty of them. I believe the poor performance of the Bigelow is directly responsible for the missing year classes of fluke.

It is time the council starts to incorporate this into their decision making process.. there is already too much risk uncertainty assigned into the process..I can say the center of the biomass is definetly moving north and east..more so the last decade.

The scup population is healthy..there is a few very large years classes of small scup that will be coming into the fishery in the next few years..Scup, being a data poor species and using a data poor research vessel make for very trying times for commercial fisherman. To get an accurate assessment of the scup population a rope/big mesh net needs to be towed.

I just had this thought the other day and it may not be appropriate, but, what effect are the pound traps in RI having on the scup population and price..Do they operate under state quotas or do they have an exemption.

It always seems like when the traps catch the fish they cant even give them away. the scup biomass is also moving to the northeast but not nearly as fast as summer flounder..

The Summer Flounder Amendment

I believe it is imperative for the council to continue to explore landings flexibility..It can be easily implemented using VMS...If this proves to be to challenging, a winter period (DEC-April) coastwide quota would be the next best alternative. But it would come at a cost .It will definetly end the directed summer flounder fishery for large offshore vessels.(the traditional user group) and redirect a lot of their effort into other mid atlantic fisheries.. It would also create a new fleet of small vessels that then make summer flounder there target species. In my eyes it would be a reallocation of the resource to a non traditional user group and once again disenfranchise the large offshore boats

As for latent effort, addressing this will be a slippery slope. Every state has very different landings limits from next to nothing to tens of thousands of pounds. the qualifiers would have to be extemely low.. As for a tiered system, the fact that fish in federal waters are managed by individual states would make this a very flawed process..given that there is not equal access right now.

It is important to realize landings flexibility reduces discards, especially regulatory, as does a coastwide winter period quota

Both methods make fishing safer reduce fuel consumption and bring a better product to the market..

Thanks Hank Lackner
F/V Jason & Danielle
Montauk NY

Dancy, Kiley

From: Beaty, Julia
Sent: Wednesday, June 29, 2016 9:12 AM
To: Dancy, Kiley
Subject: FW: What is Salmon Ranching? | Alaska Salmon's Blog | Salmon Farming and Ranching in Alaska

-----Original Message-----

From: James Fletcher [mailto:unfa34@gmail.com]
Sent: Wednesday, June 29, 2016 7:50 AM
To: Beaty, Julia <jbeaty@mafmc.org>
Subject: What is Salmon Ranching? | Alaska Salmon's Blog | Salmon Farming and Ranching in Alaska

<http://www.alaskasalmonranching.com/what-is-salmon-ranching/>

Perhaps the Best Science should discuss a project like this for Summer Flounder, Go to Yamaha Fisheries Journal Archives read the on Bastard Halibut as a method to increase landings. The SSC must defend the assumption that killing larger older females rather than young females is best science. while killing millions of discarded "undersize fish" also females.

The SSC "DOES NOT QUESTION SCIENCE" From Northeast Science Center what good is the SSC? Put the article on Halibut in front of the SSC to discuss please.

--

James Fletcher
United National Fisherman's Association
123 Apple Rd.
Manns Harbor, NC 27953
252-473-3287

Dancy, Kiley

From: flukeman@aol.com
Sent: Monday, July 04, 2016 5:50 AM
To: Dancy, Kiley
Subject: Re: Materials for June 22 SF/S/BSB Advisory Panel meeting

Kiley,

I would like to add some more comments with respect to the meeting.

ADDITIONAL THOUGHTS

- 1) The lack of trust of the recreational harvest data, had many of the audience suggesting alternative methods. It seems, that a research program, thru grants.gov could produce options that those in the room many not realize are possible. The goal would be to collect data from at least 80 % of the trips taken for the three species that are of interest to our group. Once established and verified, expansion could be considered.
- 2) Why do we not provide to the user base, the best methods of releasing fish to increase survival rates. The requirement to release fish is at least 20 years old and the mortality figures forecast that decision. It is inconceivable, that management has not focused and provided best procedures for insuring successful release.
- 3) Per the biomass indicated for scup, I suggest that the harvest level be increased significantly. This may shift some pressure from BSB and SF from the recreational side. Commercially scup prices tend to make trips unprofitable when supply increases, so I do not see huge landing increases occurring. There is so much biomass room to encourage more effort, without immediate risk.

MORE DETAILS ON MY MEETING COMMENTS

Discards are an issue. Management has provided a vision(A) and made decisions that are not congruent with that vision. By accepting the FMAT rational, with respect to not reducing discards in the commercial summer flounder fishery, acceptance flies in the face of that vision. The actions speak volumes as to what this organization stands for. The request for proposal in 2015 Collaborative Research should have asked for full retention of catch AKA discard ban rather than study discard rates and methods of improvement. No method of releasing shorts can be better than not releasing them. If, as in the BSB fishery, you are allowed 15 fish, you would be required to stop fishing when you caught 15 BSB. Under the present system, you may release multiples of 15 in order to retain your limit. With the variables of handling techniques and release predation, no one can realistically predict mortality.

Update, Fluke in Raritan Bay

I thought that the results thru last Tuesday could yield the recreational sector to exceed the catch limit by double. It seemed to be slowing down. I hear from Barnegat Bay, private boaters, that they also are having a great year on similar size fish (20-24"). Rhode Island is also having a great season. Raritan Bay fishery was stalled because of poor drifting conditions. They are back. Saturday 6/25 one of the party boats reported 17 limits. All reported multiple limits. These fish are big with three more ten pounders landed, two on one boat. History tells me that a new wave will be entering the bay during the next two weeks. The present body will fan out and will be available for harvest as they exit the bay. I can easily see that a recreational harvest of 15+ million pounds is possible. I knew that last year's low harvest was due to the cold water, but could also have been due to the declining biomass. I now question the declining biomass numbers. But, if this continues we should be out of breeding stock. If good drifting conditions occurs, the record harvest will continue.

Comprehensive Summer Flounder Amendment comments

Objective 2...To my way of thinking reducing fishing mortality on immature summer flounder under scores the focus by management on the wrong effort. The statement could have read "on summer flounder or on mature summer flounder" and if accomplished would yield the results of increasing the biomass. Do we really believe the the recreational harvest of mainly female fish has no impact on spawning results?

Commercial/ Recreational Allocation

I agree that both sides should follow the same rules regarding payback.

The data with regard to MRIP, causes question on both the comm and rec sides. The comm data is reasonably controlled.

Did not understand how management can see that specific data points are inaccurate and then conclude that the total, due to pluses and minuses canceling effect, obtains the correct answer. How did you know the correct answer? If you do know the correct answer, you do not need MRIP.

Did not understand the point with respect to the allocation remaining landings/harvest based or catch based including discards. Discards are reduced in each sector to yield the allowable catch. Need to know what the difference, that is proposed.

Recreational Measures and Strategies

As long as we continue to allow discards, the only three variables are creel, season and size. Creel and season have been untouchable due to the devastating effect on the recreational support businesses. That leaves size. The concentration on harvesting females and the increase in discard mortality, must end, or we will be facing a fishery that cannot sustain itself.

Slot Limits

Prior to each meeting the calculations of what season and/or creel reduction needs to be accomplished in order to allow a single fish per 1/2" reduction. Having this will allow for realistic discussions rather than blue sky, with no cost association.

Gear Requirements

As above proper handling techniques should be provided by management. In an effort to reduced mortality stainless steel hooks should not be used. Also with the 18 ' minimum keeper, it should be recommended that a 7/0 hook be used.

Carl Benson



Summer Flounder Fishery Information Document

June 2016

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for summer flounder with an emphasis on 2015, 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

Male and female growth rates vary substantially, with males growing more slowly. Males rarely live longer than 10 years, whereas females may live for up to 20 years and attain weights of about 25 lb.² In the 2013 benchmark stock assessment for summer flounder, the median length at maturity was estimated as 26.0 cm (10.2 inches) for male summer flounder, 29.2 cm (11.5 inches) for female summer flounder, and 26.8 cm (10.5 inches) for the sexes combined. The median age of maturity for summer flounder was determined to be 1.1 years for males, 1.4 years for females, and 1.2 years for both sexes combined.³

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 2015, the NEFSC completed a stock assessment update for summer flounder, which incorporated data through 2014 into the population model used for the previous benchmark assessment. The 2015 assessment update indicated that the summer flounder stock was not overfished, but that overfishing was occurring in 2014, relative to the biological reference points established through the SAW/SARC 57 assessment. The fishing mortality rate (F) was estimated to be 0.359 in 2014, 16% above the threshold fishing mortality reference point of $F_{MSY} = 0.309$

(Figure 1). The 90% confidence interval for F in 2014 was 0.274 to 0.435. Spawning Stock Biomass (SSB) was estimated to be 88.90 million lb (40,323 mt) in 2014, or 65% of the $SSB_{MSY} = 137.6$ million lb (62,394 mt; Figure 2). The 90% confidence interval for SSB in 2014 was 35,486 to 49,918 mt.⁴

These results appear to be driven in part by low recruitment. The assessment update indicates that the previous benchmark assessment had overestimated recruitment for several of the preceding years. The summer flounder stock appears to have experienced four below-average year classes from 2010 to 2013. The revised recruitment estimates from the 2015 update resulted in reduced estimates of stock size compared to previous levels. The 2014 year class was estimated to be approximately at the time series average of 41 million fish. The assessment update also indicates that fishing mortality rates have been underestimated in recent years.⁴

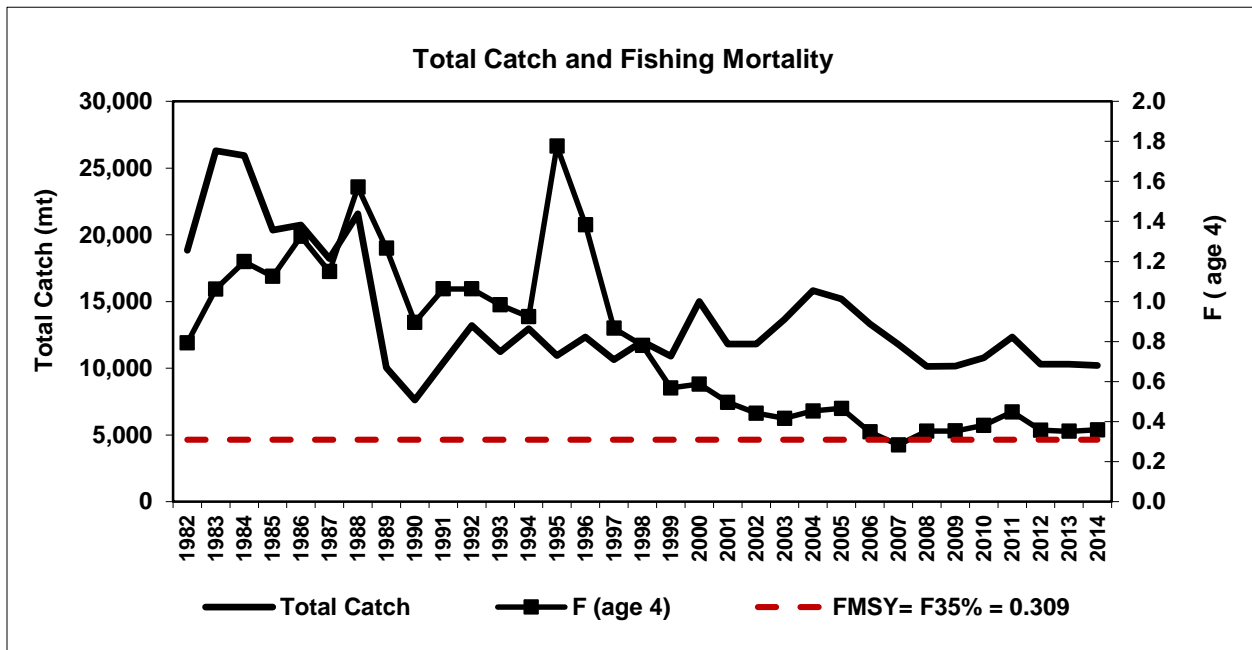


Figure 1: Total fishery catch and fully-recruited fishing mortality (F , peak at age 4) of summer flounder. The horizontal dashed red line is the 2013 SAW 57 fishing mortality threshold reference point proxy.⁴

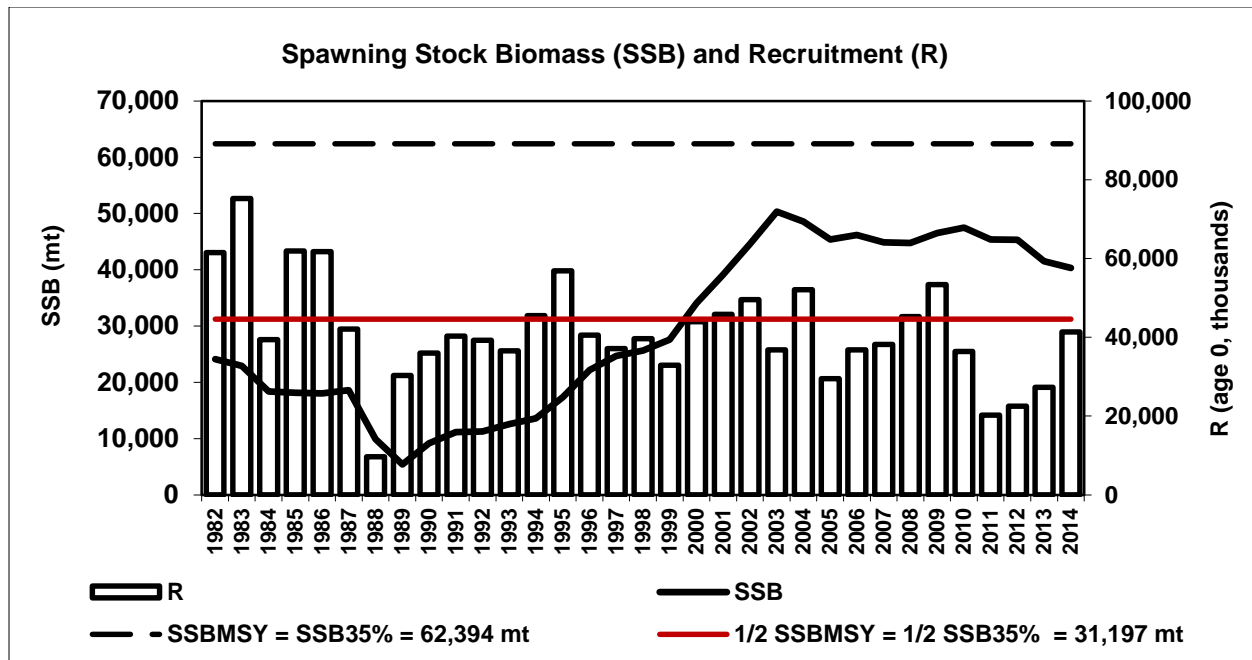


Figure 2: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year. The horizontal dashed line is the 2013 SAW 57 biomass target reference point proxy, the horizontal red line is the biomass threshold reference point proxy.⁴

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

(2015) 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 2015.

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 2015 were about 15.45 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 ^c	2018 ^c
ABC (mil. lb) ^a	--	--	21.50	25.5	33.95	25.58	22.34	21.94	22.57	16.26	15.86	15.68
Commercial ACL (mil. lb) ^a	--	--	--	--	--	14.00	12.11	12.87	13.34	9.42	9.19	9.10
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	7.91	7.89
Commercial landings (mil lb.)	10.04	9.21	10.94	13.04	16.56	13.03	12.49	11.07	10.59	--	--	--
% of commercial quota landed	103%	99%	102%	102%	95%	102%	109%	105%	96%	--	--	--
Recreational ACL (mil. lb)	--	--	--	--	--	11.58	10.23	9.07	9.44	6.83	6.67	6.56
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	5.28	5.26
Recreational landings (mil. lb)	9.34	8.15	6.03	5.11	5.96	6.49	7.39	7.40	4.87	--	--	--
% of recreational harvest limit landed	140%	131%	84%	59%	51%	76%	97%	106%	66%	--	--	--

^aThe 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 2015-2016 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.

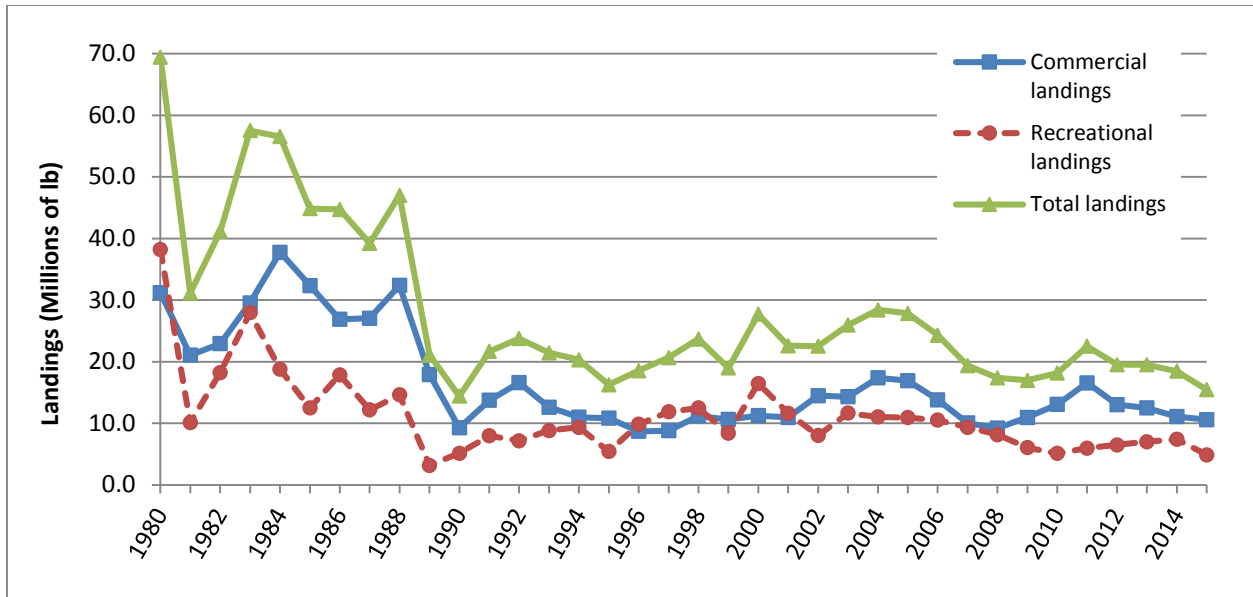


Figure 3: Commercial and recreational summer flounder landings in millions of pounds, Maine-North Carolina, 1980-2015.^{5,6}

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 8.80 million pounds in 1997 (Figure 3). In 2015, commercial fishermen landed approximately 10.59 million pounds of summer flounder (corresponding to 96% of the commercial quota).⁵

In federal waters, a moratorium permit is required to fish commercially for summer flounder. Permit data for 2015 indicate that 783 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 2015 indicate that the bulk of the summer flounder landings were taken by bottom otter trawls (96 percent), with other gear types (e.g., scallop trawls, sink gill nets, hand lines, scallop dredges, and beam trawls) each accounting 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 2015 (Table 3; Figure 4). Statistical area 616 was responsible for the highest percentage of the catch, with statistical area 537 having the highest number of trips that caught summer flounder (Table 3).⁸

Table 3: Statistical areas that accounted for at least 5 percent of the total summer flounder catch in 2015, with associated number of trips.⁷

Statistical Area	Percent of 2015 Commercial Summer Flounder Catch	Number of Trips
616	27%	594
613	18%	1,828
537	17%	1,894
612	7%	1,372
622	5%	128

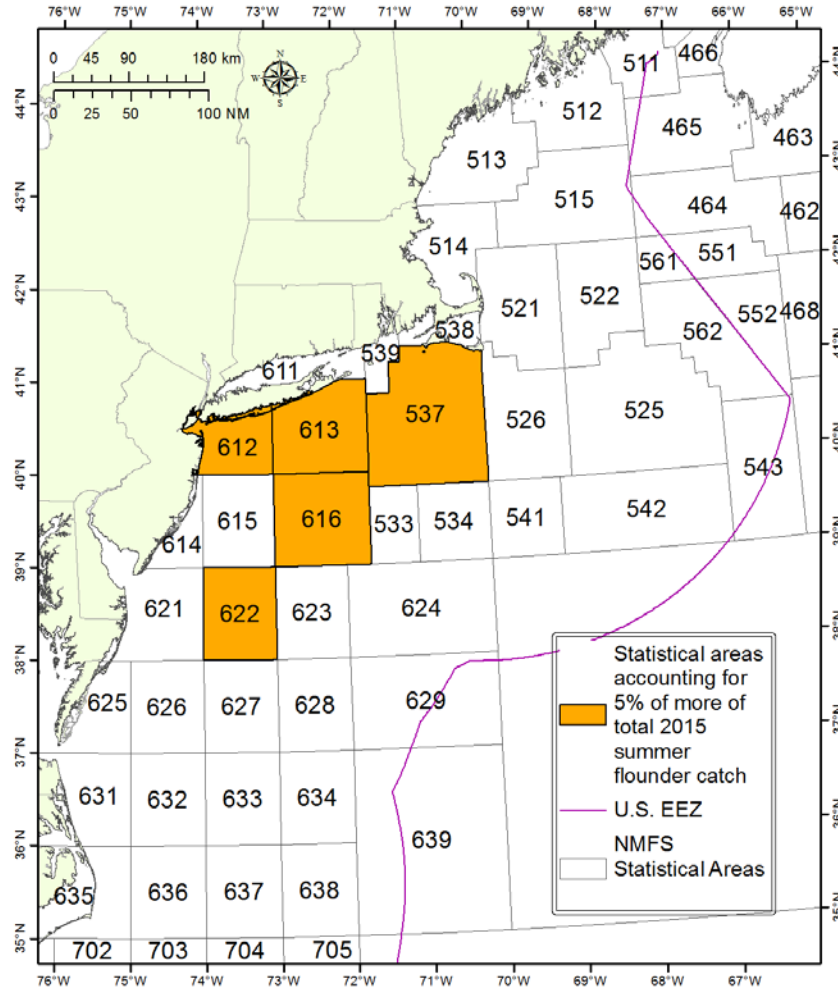


Figure 4: NMFS Statistical Areas, highlighting those that each accounted for more than 5% of the commercial summer flounder catch in 2015.⁸

For the years 1994 through 2015, NMFS dealer data indicate that summer flounder total ex-vessel revenue (adjusted to 2015 dollars to account for inflation) from Maine to North Carolina ranged from a low of \$21.30 million in 1996 to a high of \$34.80 million in 2004. The adjusted mean price per pound for summer flounder ranged from a low of \$1.74 in 2011 (\$1.84 in 2011 dollars) to a high of \$2.96 in 2015. In 2015, 10.59 million pounds of summer flounder were landed generating \$31.34 million in total ex-vessel revenue (an average of \$2.96 per pound; Figure 5).⁵

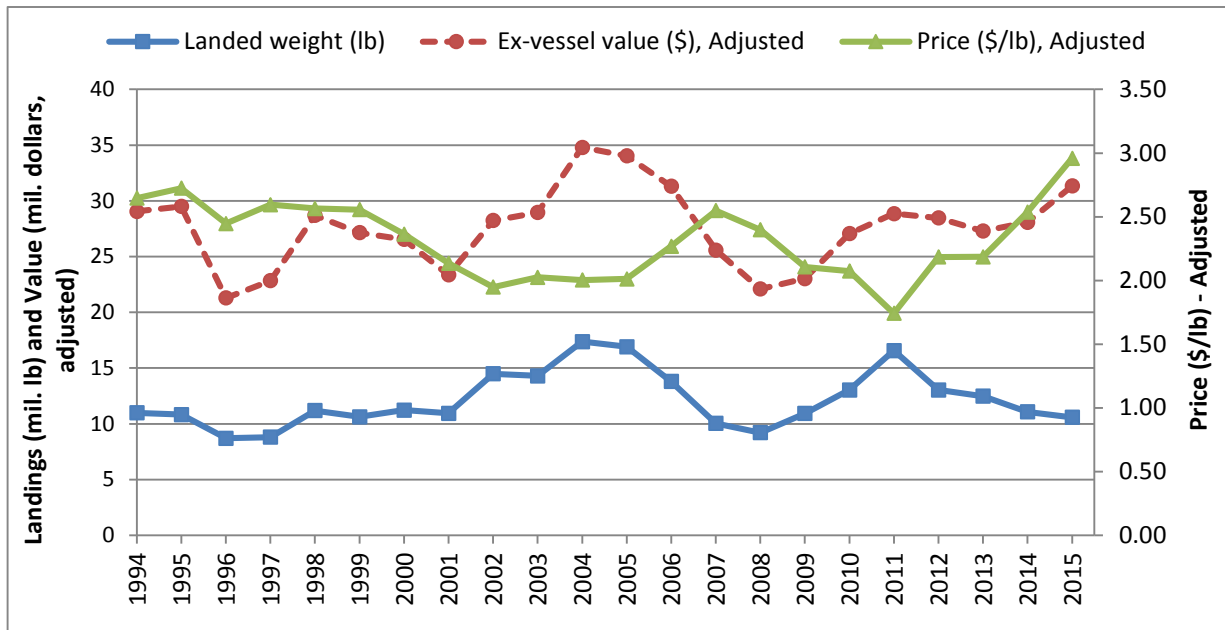


Figure 5: Landings, ex-vessel value, and price per pound for summer flounder, Maine through North Carolina, 1994-2015. Ex-vessel value and price are adjusted to real 2015 dollars.⁵

At least 100,000 lb of summer flounder were landed by commercial fishermen at each of 19 ports in eight states in 2015. These 19 ports accounted for approximately 90% of all 2015 commercial summer flounder landings. Beaufort, NC and Point Judith, RI were the leading ports in 2015 in terms of pounds of summer flounder landed, while Point Judith, RI was the leading port in 2015 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 2015, and the corresponding percentage of total 2015 commercial summer flounder landings and number of vessels.⁵

Port	Summer Flounder Landings (lb)	% of total commercial summer flounder landings	Number of vessels
BEAUFORT, NC	1,510,448	14	58
POINT JUDITH, RI	1,496,172	14	131
HAMPTON, VA	1,109,598	10	61
PT. PLEASANT, NJ	778,231	7	47
NEWPORT NEWS, VA	701,833	7	39
CAPE MAY, NJ	488,065	5	56
MONTAUK, NY	434,593	4	71
WANCHESE, NC	431,942	4	19
CHINCOTEAGUE, VA	393,785	4	33
ENGELHARD, NC	335,277	3	15
HOBUCKEN, NC	322,195	3	13
NEW BEDFORD, MA	293,866	3	67
ORIENTAL, NC	262,555	2	9
BELFORD, NJ	260,235	2	22
STONINGTON, CT	172,752	2	19
OCEAN CITY, MD	157,526	1	12
HAMPTON BAYS, NY	156,278	1	27
LONG BEACH/BARNEGAT LIGHT, NJ	125,008	1	19
HYANNIS, MA	108,344	1	13

210 federally permitted dealers from Maine through North Carolina bought summer flounder in 2015. More dealers bought summer flounder in New York than in any other state (Table 5). All dealers bought approximately \$31.34 million worth of summer flounder in 2015.⁵

Table 5: Dealers reporting buying summer flounder, by state in 2015.⁵

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number Of Dealers	35	31	15	48	33	0	5	15	28

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 2016 regional conservation equivalency measures are given in Table 6.

Table 6: Summer flounder recreational fishing measures in 2016, by state, under regional conservation equivalency. 2016 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut, New York, and New Jersey, 4) Delaware, Maryland, The Potomac River Fisheries Commission, and Virginia, and 5) North Carolina.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	16	5 fish	May 22-September 23
Rhode Island	18	8 fish	May 1-December 31
Connecticut	18	5 fish	May 17- September 21
CT Shore Program (46 designed shore sites)	16		
New York	18	5 fish	May 17- September 21
New Jersey ^a	18	5 fish	May 21-September 25
NJ Shore program site (Island Beach State Park)	16	2 fish	
New Jersey/Delaware Bay COLREGS ^b	17	4 fish	
Delaware	16	4 fish	January 1- December 31
Maryland	16	4 fish	January 1- December 31
PRFC	16	4 fish	January 1- December 31
Virginia	16	4 fish	January 1- December 31
North Carolina	15	6 fish	January 1- December 31

^a New Jersey east of the COLREGS line at Cape May, NJ will have management measures consistent with the northern region of Connecticut – New York.

^b New Jersey west of the COLREGS line at Cape May, NJ inside Delaware Bay will have a similar size limit to the southern region (DE-VA), the same possession limit as the southern region (DE-VA), and the same season length as the northern region of Connecticut – New York.

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 2015, there were 797 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, 1981-2015.⁶

Year	Catch (number of fish)	Landings (number of fish)	Landings (pounds)
1981	13,578,785	9,566,572	10,081,007
1982	23,562,021	15,472,707	18,233,138
1983	32,062,267	20,996,301	27,969,295
1984	29,784,927	17,475,175	18,764,676
1985	13,525,922	11,066,190	12,489,675
1986	25,292,462	11,620,860	17,861,285
1987	21,023,452	7,864,761	12,167,247
1988	17,170,745	9,959,663	14,624,185
1989	2,676,595	1,716,760	3,158,017
1990	9,100,815	3,793,584	5,134,329
1991	16,074,808	6,067,646	7,959,826
1992	11,909,547	5,002,105	7,147,691
1993	22,904,141	6,494,043	8,830,913
1994	17,725,046	6,702,691	9,327,506
1995	16,307,633	3,325,720	5,421,091
1996	18,994,408	6,996,988	9,820,342
1997	20,027,081	7,166,820	11,865,860
1998	22,085,840	6,979,092	12,476,562
1999	21,377,717	4,106,991	8,366,201
2000	25,384,431	7,801,077	16,467,526
2001	28,187,211	5,293,609	11,636,795
2002	16,674,292	3,262,156	8,008,117
2003	20,531,910	4,558,673	11,638,491
2004	20,336,204	4,316,499	11,021,888
2005	25,805,580	4,027,461	10,915,346
2006	21,400,013	3,950,286	10,504,638
2007	20,731,505	3,107,579	9,336,707
2008	22,896,843	2,349,870	8,150,663
2009	24,085,187	1,806,183	6,030,377
2010	23,721,588	1,501,464	5,108,353
2011	21,558,692	1,839,877	5,955,713
2012	16,528,450	2,272,225	6,489,809
2013	16,151,328	2,534,353	7,386,648
2014	19,457,025	2,459,208	7,398,557
2015	12,470,397	1,674,126	4,866,014

On average, an estimated 88 percent of the landings (in numbers of fish) occurred in state waters over the past ten years, and about 82 percent of landings came from state waters in 2015 (Table 8). The majority of summer flounder were landed in New York and New Jersey in 2015 (Table 9).⁶

Table 8: Estimated percentage of summer flounder recreational landings in state vs. federal waters, Maine through North Carolina, 2006-2015.⁶

Year	State <= 3 mi	EEZ > 3 mi
2006	90.4%	9.6%
2007	88.9%	11.1%
2008	96.8%	3.2%
2009	90.8%	9.2%
2010	92.3%	7.7%
2011	95.4%	4.6%
2012	87.8%	12.2%
2013	77.0%	23.0%
2014	76.8%	23.2%
2015	82.0%	18.0%
Avg. 2006 - 2015	87.8%	12.2%
Avg. 2013 - 2015	78.6%	21.4%

Table 9: State contribution (as a percentage) to total recreational landings of summer flounder (in numbers of fish), from Maine through North Carolina, 2014 and 2015.⁶

State	2014	2015
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	4.6%	4.7%
Rhode Island	7.5%	9.8%
Connecticut	4.9%	5.8%
New York	20.7%	32.4%
New Jersey	47.8%	29.7%
Delaware	3.8%	3.1%
Maryland	3.2%	2.7%
Virginia	5.7%	9.5%
North Carolina	1.9%	2.4%
Total	100%	100%

MRIP data indicate that about 81% of recreational summer flounder landings in 2015 were caught by anglers fishing on private or rental boats, about 17% from anglers aboard party or charter boats, and less than 3% from shore (Table 10).⁶

Table 10: The number of summer flounder landed by recreational fishing mode, Maine through North Carolina, 1981-2015.⁶

Year	Shore (numbers of fish)	Party/Charter (numbers of fish)	Private/Rental (numbers of fish)
1981	3,145,685	1,362,253	5,058,634
1982	1,120,527	5,936,005	8,416,175
1983	3,963,678	3,574,224	13,458,399
1984	1,355,597	2,495,734	13,623,844
1985	786,186	1,152,247	9,127,757
1986	1,237,032	1,608,908	8,774,920
1987	406,094	1,150,095	6,308,572
1988	945,862	1,134,356	7,879,445
1989	180,268	141,318	1,395,174
1990	261,899	413,241	3,118,444
1991	565,402	597,609	4,904,635
1992	275,472	375,244	4,351,389
1993	342,226	1,013,463	5,138,354
1994	447,183	836,361	5,419,147
1995	241,904	267,348	2,816,468
1996	206,929	659,878	6,130,181
1997	255,063	930,635	5,981,122
1998	316,312	360,777	6,302,003
1999	213,444	300,807	3,592,740
2000	569,613	648,754	6,582,710
2001	226,994	329,701	4,736,914
2002	154,960	261,552	2,845,644
2003	203,719	389,140	3,965,814
2004	200,367	463,777	3,652,355
2005	104,294	498,611	3,424,556
2006	154,416	315,934	3,479,936
2007	98,419	499,161	2,509,999
2008	79,338	171,950	2,098,582
2009	62,693	176,999	1,566,491
2010	59,810	160,108	1,281,546
2011	34,850	137,786	1,667,241
2012	106,342	169,476	1,996,407
2013	132,805	284,046	2,117,502
2014	79,917	440,752	1,938,539
2015	47,683	327,538	1,301,574
% of Total, 1981-2015	9%	14%	78%
% of Total, 2011-2015	4%	11%	85%

6. References

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- ⁶ Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed June 13, 2016. Available at: <http://www.st.nmfs.noaa.gov/recreational-fisheries/index>.
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