



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

## MEMORANDUM

**Date:** August 2, 2018  
**To:** Council  
**From:** Kiley Dancy, Staff  
**Subject:** Summer Flounder Specifications for 2019

The Council and Board will consider 2019 specifications for summer flounder on Wednesday, August 15. Materials listed below are provided for the Council and Board's consideration of this agenda item.

Please note that some materials are behind other tabs.

- 1) Monitoring Committee recommendation summary (*behind Tab 7*)
- 2) July 2017 Scientific and Statistical Committee meeting report (*behind Tab 16*)
- 3) Staff memo on 2019 summer flounder specifications dated June 29, 2018
- 4) Summer Flounder Data Update for 2018
- 5) June 2018 Advisory Panel Fishery Performance Report (*behind Tab 7*)
- 6) Additional written comments from advisors received through August 1, 2018 on summer flounder, scup, and black sea bass (*behind Tab 7*)
- 7) Additional public comments received on summer flounder as of August 1, 2018
- 8) 2018 Summer Flounder Fishery Information Document



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# MEMORANDUM

**DATE:** June 29, 2018

**TO:** Chris Moore, Executive Director

**FROM:** Kiley Dancy, Staff

**SUBJECT:** Summer Flounder Specifications for 2019

### Executive Summary

In 2016, two-year specifications were implemented for summer flounder for 2017-2018. No specifications have yet been recommended or implemented for the 2019 fishing year. A benchmark stock assessment for summer flounder is scheduled to undergo peer review in November 2018, with results expected to be available in early 2019. Interim 2019 specifications are needed for implementation by January 1, 2019. Revisions based on the new stock assessment would likely be implemented in spring 2019.

The most recent stock assessment update was completed in July 2016. This update indicated that the summer flounder stock was not overfished, but overfishing was occurring in 2015. Spawning stock biomass (SSB) was estimated to be 79.90 million lb (36,240 mt) in 2015, 58% of SSB 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  $F_{MSYPROXY} = F_{35\%} = 0.309$ .

The Northeast Fisheries Science Center (NEFSC) provided a data update for 2018, with catch, landings, and fishery independent survey indices through 2017. In addition, this data update provides projections of stock biomass for 2019. The projections use the 2016 stock assessment update model run, updated to reflect realized catch from 2016 and 2017 and the assumption that the 2018 Acceptable Biological Catch (ABC) will be caught. Staff recommend using these projections to set a preliminary 2019 ABC for summer flounder, for revision later in 2019 based on the forthcoming benchmark assessment.

The Monitoring Committee will review recent fishery performance and recommend to the Council and Board commercial and recreational Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs) for 2019 as well as any modifications to the commercial management measures for 2019.

The currently implemented 2018 catch and landings limits, and the staff recommendation for 2019 limits, are shown in Table 1. The methods used to derive these measures are described in more detail later in this memo.

**Table 1:** Currently implemented catch and landings limits for summer flounder for 2018, and staff recommended measures for 2019.

Management Measure	2018		Basis	2019 (Staff Rec.)		Basis
	mil lb.	mt		mil lb.	mt	
<b>OFL</b>	18.69	8,476	2016 stock assessment update projections	20.60	9,343	Updated stock projections for 2019 based on the 2016 assessment update
<b>ABC</b>	13.23	5,999	Stock assessment projections/SSC recommendation	15.41	6,988	Revised 2019 projections/Council Risk Policy application
ABC Landings Portion	11.05	5,010	Stock assessment projections	12.86	5,834	Stock assessment projections
ABC Discards Portion	2.18	989	Stock assessment projections	2.54	1,154	Stock assessment projections
Projected Commercial Discards	1.07	485	49% of ABC discards portion, based on 2013-2015 average % discards by sector	1.47	666	58% of ABC discards portion, based on 2015-2017 average % discards by sector
Projected Recreational Discards	1.11	504	51% of ABC discards portion, based on 2013-2015 average % discards by sector	1.08	488	42% of ABC discards portion, based on 2015-2017 average % discards by sector
<b>Commercial ACL</b>	7.70	3,491	60% of ABC landings portion (per FMP allocation) + projected commercial discards	9.18	4,166	60% of ABC landings portion (FMP allocation) + projected commercial discards
Commercial ACT	7.70	3,491	Monitoring Committee recommendation: no deduction from ACL for management uncertainty	9.18	4,166	Staff recommendation: no deduction from ACL for management uncertainty
<b>Commercial Quota</b>	6.63	3,006	Commercial ACT, less projected commercial discards	7.72	3,500	Commercial ACT, less projected commercial discards
<b>Recreational ACL</b>	5.53	2,508	40% of ABC landings portion (per FMP allocation) + projected recreational discards	6.22	2,822	40% of ABC landings portion (FMP allocation) + projected recreational discards
Recreational ACT	5.53	2,508	Monitoring Committee recommendation; no deduction from ACL for management uncertainty	6.22	2,822	Staff recommendation: no deduction from ACL for management uncertainty
<b>Recreational Harvest Limit</b>	4.42	2,004	Recreational ACT, less projected recreational discards	5.15	2,334	Recreational ACT, less projected recreational discards

As described below, staff recommend that ACTs for the commercial and recreational fisheries be set equal to their respective ACL. Staff also recommend no changes to the commercial minimum size, mesh requirements, or exemption programs for summer flounder in 2019.

## **Introduction**

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for ABC, preventing overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committee established by the Fishery Management Plan (FMP) is responsible for developing recommendations for management measures designed to achieve the recommended catch limits. The SSC is responsible for recommending ABCs that address scientific uncertainty, while the Monitoring Committee recommends ACTs that address management uncertainty and management measures to constrain landings to the ACTs.

In 2015, the SSC recommended 2016-2018 specifications based on a phased-in reduction approach taken at the request of the Council. In 2016, the SSC revised their previously recommended 2017-2018 ABCs after reviewing the results of the 2016 stock assessment update (see "Review of Prior SSC Recommendations" below). The revised 2017-2018 measures were implemented by NMFS in December 2016. In 2017, the SSC reviewed and maintained their previous recommendations for the 2018 fishing year (ABC = 13.24 million lb or 5,999 mt)

No specifications are currently in place for the 2019 fishing year. A benchmark stock assessment is currently in development and is scheduled for peer review at the 66<sup>th</sup> Stock Assessment Review Committee (SARC 66) in November 2018.<sup>1</sup> Because specifications for summer flounder must be implemented by January 1, 2019, the assessment results will not be available with enough time to incorporate into the initial 2019 ABC recommendations. Thus, interim specifications are required for the first part of 2019, which will then be revised after the final benchmark stock assessment results are available for review.

The SSC is asked to develop 2019 ABC recommendations, and the Monitoring Committee will need to develop 2019 ACL and ACT recommendations. Based on these recommendations, the Council will make a recommendation to the NMFS Greater Atlantic Regional Administrator. Because the FMP is cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council in August 2018 to recommend summer flounder management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2019 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.<sup>2</sup>

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<sup>1</sup> See <https://www.nefsc.noaa.gov/saw/> for more information.

<sup>2</sup> Available at: <http://www.mafmc.org/council-events/2018/july-2018-ssc-meeting>.

## **Recent Catch and Landings**

Reported 2017 landings in the commercial fishery were approximately 5.83 million lb (2,644 mt), about 3% over the commercial quota of 5.66 million lb (2,567 mt). The 2017 commercial ACL (6.57 million pounds or 2,982 mt) was exceeded by 17%, with 2017 commercial catch estimated at 7.71 million pounds (3,498 mt) according to the 2018 data update.

Recreational harvest in 2017 was 3.19 million (1,447 mt), about 85% of the recreational harvest limit (3.77 million lb or 1,711 mt). Recreational catch (harvest plus dead discards) in 2017 was estimated at 4.13 million pounds (1,873 mt), about 87% of the recreational ACL (4.72 million pounds = 2,143 mt).

Total fishery dead catch in 2017 was estimated at 11.84 million pounds (5,371 mt) according to the 2018 data update, about 5% above the 2017 ABC of 11.30 million pounds (5,125 mt).

The 2018 commercial landings as of the week ending June 23, 2018, indicate that 58% of the 2018 coastwide commercial quota has been landed (Table 2). Last year, 62% of the 2017 commercial quota had been landed as of June 24. No recreational data are available yet for summer flounder for 2018.

**Table 2:** The 2018 state-by-state commercial quotas and the amount of summer flounder landed by commercial fishermen, in each state as of week ending June 23, 2018.

State	Cumulative Landings (lb)	Quota (lb) <sup>a</sup>	Percent of Quota (%)
ME	0	3,061	0
NH	0	30	0
MA	123,616	410,192	30
RI	623,925	1,001,381	62
CT	72,154	145,268	50
NY	246,436	492,169	50
NJ	529,906	1,076,440	49
DE	0	0	0
MD	20,168	131,239	15
VA	783,257	1,371,972	57
NC	1,310,224	1,755,989	75
Other	0	0	0
<b>Totals</b>	<b>3,709,686</b>	<b>6,387,741</b>	<b>58</b>

<sup>a</sup> Quotas adjusted for overages. Source: NMFS Weekly Quota Report for week ending June 23, 2018.

## **Stock Status and Biological Reference Points**

The last peer-reviewed benchmark stock assessment was conducted in the summer of 2013 at the 57<sup>th</sup> Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC 57).<sup>3</sup> 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 68.78 million lb (31,197 mt).

<sup>3</sup> Northeast Fisheries Science Center. 2013. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Summary Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 13-14; 39 p.

The most recent stock assessment update was completed in July 2016, using data through 2015.<sup>4</sup> This assessment update uses the model from the 2013 benchmark stock assessment, which is a combined-sex age-structured ASAP assessment model.

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 benchmark assessment. 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 fishing mortality reference point ( $F_{MSY}$  proxy =  $F_{35\%}$  = 0.309). The 90% confidence interval for F in 2015 was 0.292 to 0.490.

SSB was estimated to be 79.90 million lb (36,240 mt) in 2015, about 58% of the biomass target ( $SSB_{MSY}$  = 137.6 million lb, 62,394 mt), and 16% above the biomass threshold ( $\frac{1}{2} SSB_{MSY}$  proxy =  $\frac{1}{2} SSB_{35\%}$  = 68.78 million lb, 31,197 mt). A rebuilding plan will be triggered if estimated biomass falls below the minimum biomass threshold. Figures showing the trends in F and SSB over time are provided in the 2017 Summer Flounder Fishery Information Document.

The 2016 assessment update indicated that while catches in recent years have not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected SSB has not been achieved. This update showed 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 below average recruitment from 2010-2015. The assessment continues to show a consistent recent retrospective pattern in recruitment averaging +22%. The update shows that recruitment of age 0 fish was below the time series average (41 million fish at age 0; 1982-2015) each year from 2010 through 2015. Recruitment of age 0 fish in 2015 was estimated at 23 million fish.

In June 2018, the Council received a data update for summer flounder<sup>5</sup>, including updated catch and landings information as well as survey indices through 2017 (through spring 2018 for NESFC indices). The data update indicates that most state and federal survey indices of abundance, with the exception of Massachusetts and Delaware, have seen declines from their most recent peaks (generally during 2009-2012) through 2017, although most indices are variable in recent years, and some have shown signs of slight to moderate rebounding. The NEFSC fall survey was unable to sample the summer flounder strata in fall 2017, however the NEFSC spring survey biomass index increased between 2017 and 2018. The Delaware index peaked in 2017. Indices of recruitment (age 0 fish) have generally been below average over the last 6-7 years. Recruitment indices in 2017 were highly variable.

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

<sup>5</sup> Posted at [http://www.mafmc.org/s/Summer\\_flounder\\_2018\\_Data\\_Projection\\_Update.pdf](http://www.mafmc.org/s/Summer_flounder_2018_Data_Projection_Update.pdf).

## **Review of Prior SSC Recommendations**

In July 2016, the SSC recommended, and the Council and Board adopted, revised two-year ABCs for summer flounder for 2017-2018, based on new stock status information and projections from the 2016 assessment update.<sup>6</sup> In July 2017, the SSC reviewed the 2018 recommendation and recommended no changes.

The SSC classified the current assessment as an assessment requiring an “SSC-modified OFL (overfishing limit) probability distribution.” In this type of assessment, the SSC provides its own estimate of uncertainty in the distribution of the OFL. In 2016, 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%.

Assuming an OFL with a lognormal distribution and a 60% CV, and a stock status lower than  $B_{MSY}$ , the 2018 OFL was determined to be 18.69 million lb (8,476 mt), based on an  $F_{MSY}$  proxy of  $F = 0.309$  ( $F_{35\%}$ ) and 2017 projected SSB. For 2018, this procedure resulted in a  $P^*=0.267$  and an ABC of 13.23 million lb (5,999 mt).

At their July 2016 meeting, the SSC considered the following to be the most significant sources of uncertainty associated with the determination of the OFL and/or ABC:

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

## **Staff Recommendation for 2019 ABC**

As described in the 2018 data update, projections using the existing 2016 updated assessment model were made to estimate the 2019 OFL and ABC. The projections use the realized catches for 2016 and 2017 and assume that 100% of the 2018 ABC (13.23 million lb = 5,999 mt) will be caught. The OFL

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<sup>6</sup> The previous 2016-2018 ABC specifications were recommended by the SSC in 2015 based on a three-year phased in reduction, at the request of the Council. This was a deviation from the Council’s risk policy that was intended to mitigate negative economic and social impacts of large cuts in the ABC. After reviewing the 2016 stock assessment update, the SSC concluded that the patterns in the survey and recruitment indices indicated a longer-term decline in stock performance and required additional caution compared to the phased-in approach adopted in 2015. Accordingly, the SSC recommended against continuation of the phased-in approach, and recommended revised ABCs for 2017 and 2018 based on a return to its standard approach for implementing the Council’s risk policy.

projection uses  $F_{2019}=F_{MSY} = 0.309$ . The total catch associated with the projected 2019 OFL is 20.60 million lb = 9,343 mt.

Based on these updated 2019 OFL projections, staff recommend a 2019 ABC of 15.41 million lb (6,988 mt). This is derived by applying the same application of the Council's risk policy that the SSC has used in recent years, including assuming an OFL with a lognormal distribution and a 60% CV, projected 2018 SSB at 75.6% of  $SSB_{MSY}$ , and a typical life history. This results in a 2019 ABC of 15.41 million pounds = 6,988 mt and a  $P^*$  of 0.300 (Table 3).

**Table 3: Staff recommendations based on 2019 stock biomass projections and application of the Council's risk policy.**

Year	OFL	ABC Total Catch	ABC % of OFL	Landings portion of ABC	Discards portion of ABC	F	$P^*$ Value	Projected SSB
2019	20.60 mil lb (9,343 mt)	15.41 mil lb (6,988 mt)	75%	12.86 mil lb (5,834 mt)	2.54 mil lb (1,154 mt)	0.225	0.300	117.28 mil lb (53,198 mt)

As discussed above, these specifications are intended to serve as initial 2019 specifications until they can be revised based on the results of the 2018 benchmark assessment scheduled for peer review in November 2018.

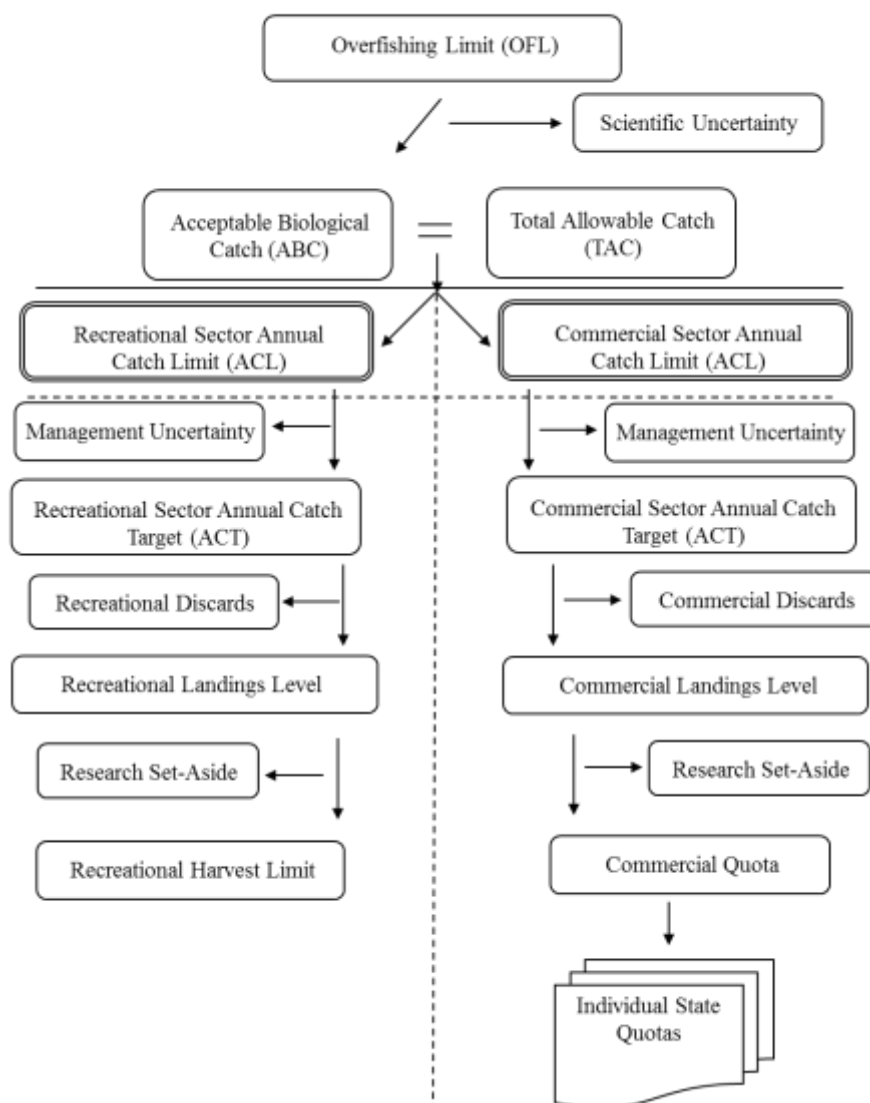
### **Sector-Specific Catch and Landings Limits**

#### ***Recreational and Commercial Annual Catch Limits***

The summer flounder ABC includes both landings and discards, and is equal to the sum of the commercial and recreational ACLs for summer flounder (Figure 1). Based on the allocation percentages in the FMP, 60% of the landings are allocated to the commercial fishery, and 40% to the recreational fishery. Discards are apportioned based on the discards contribution from each fishing sector using a 3-year moving average percentage. When 2017-2018 specifications were revised in 2016, the most recent three-year period was 2013-2015, during which 51% of dead discards were attributable to the recreational fishery, and 49% to the commercial fishery, on average (Table 1). According to the 2018 data update, the proportion of discards attributable to the commercial fishery increased in 2017, with approximately 58% of discards originating from the commercial fishery and 42% from the recreational fishery between 2015-2017. This is accounted for in the staff recommendation for 2019 ACLs and ACTs.



### Summer Flounder Flowchart



**Figure 1:** Flowchart for summer flounder catch and landings limits. Note: the research set-aside program was suspended in 2014.

#### *Annual Catch Targets*

The Summer Flounder Monitoring Committee is responsible for recommending ACTs, which are intended to account for management uncertainty. The Monitoring Committee should consider all relevant sources of management uncertainty in the summer flounder fishery and provide the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT.

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).

Recreational harvest fluctuated widely in relation to the recreational harvest limits (RHLs) for the past five years. Over the past five years (2013-2017), harvest varied substantially (Table 4), even with constant recreational measures between 2014-2016. This illustrates the substantial uncertainty around predicting recreational harvest, which results in occasionally large RHL underages and overages. Given recent substantial underages, staff believe a reduction in the recreational ACL to an ACT is not necessarily the appropriate management response. Instead, the Monitoring Committee should continue ongoing work to incorporate estimates of uncertainty in the recreational data and more fully consider various factors that may influence recreational catch and harvest. For example, the impacts of management changes on recreational discards and the impacts of year class size and trends in biomass projections should be more thoroughly considered with the goal of better predicting impacts of management measure changes. The Council and Board are currently considering both short-term and long-term modifications to the recreational management system to address some of these uncertainties in recreational management, and achieve a balance of flexibility and stability in the recreational measures. For example, the Council funded a proposal to evaluate moving to an F-based management system for the recreational summer flounder fishery. This type of management would fundamentally alter the approach to recreational management.

Recreational dead discards as a percentage of total catch has been stable in recent years, averaging 8% of total catch from 2013-2017. As a percentage of recreational catch, recreational dead discards have averaged 24% over the same time period.

Commercial landings have generally been very near the commercial quotas for the last five years (2013-2017). Although the commercial quota overages were higher than average in 2013 and 2014, landings have been closer to the commercial quota for the past two years (Table 4). 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.

Commercial discards as a percentage of the total catch increased in 2017 relative to recent years. Typically, commercial discards have comprised 10% of the total catch on average since 1989, and in 2017 were 16% of the total catch. Commercial discards were 24% of commercial catch in 2017, above the prior 10-year average of 17%. According to observer data, the increase in discards in 2017 appears to be largely driven by low quotas in 2017 and resulting closures (Table 5). The top reasons shown below account for about 90% of observed trawl discards over this period.

Because increases in commercial discards resulted in the commercial ACL being exceeded in 2017, trends in commercial discards should continue to be monitored closely for potential future incorporation into ACT recommendations. However, given the forthcoming benchmark stock assessment that is expected to revise 2019 catch limits, as well as the forthcoming revised time series of recreational catch that will change the understanding of discards by sector, staff recommend that no changes to the ACTs be made until this new information becomes available. Thus, for preliminary 2019 specifications, staff recommend that the commercial and recreational ACTs be set equal to their respective sector ACLs. This should be re-evaluated when revised recreational time series are released, as well as when new stock assessment catch time series are available.

**Table 4:** Summer flounder commercial and recreational fishery performance relative to quotas and harvest limits, 2013-2017.

Year	Commercial Landings (mil lb) <sup>a</sup>	Commercial Quota (mil lb)	Percent Overage(+)/ Underage(-)	Recreational Landings (mil lb) <sup>b</sup>	Recreational Harvest Limit (mil lb)	Percent Overage(+)/ Underage(-)
2013	12.49	11.44	+9%	7.36	7.63	-4%
2014	11.07	10.51	+5%	7.39	7.01	+5%
2015	10.68	11.07	-4%	4.72	7.38	-36%
2016	7.81	8.12	-4%	6.18	5.42	+14%
2017	5.83	5.66	+3%	3.19	3.77	-15%
<b>5-yr Avg.</b>	-	-	+2%	-	-	-7%

<sup>a</sup> Source: NMFS dealer data, as of May 2018.

<sup>b</sup> Source: NMFS MRIP database as of April 23, 2018. Recreational landings from Maine through North Carolina.

**Table 5:** Top reasons recorded for discarding summer flounder on observed trawl trips, 2013-2017.

Recorded Discard Reason	2013	2014	2015	2016	2017	Avg
Regulations Prohibit Retention, Too Small	6.2%	10.4%	9.5%	9.2%	10.4%	9.1%
Regulations Prohibit Retention, Quota Filled	2.9%	3.2%	3.6%	4.1%	6.1%	4.0%
Regulations Prohibit Any Retention	1.5%	1.8%	0.8%	1.8%	4.4%	2.1%
Regulations Prohibit Retention, No Quota in Area	0.5%	0.6%	1.2%	0.9%	5.1%	1.7%
Retaining Only Certain Size Better Price Trip Quota in Effect	0.2%	1.1%	0.6%	1.1%	1.9%	1.0%

### *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 RHLs (Table 1). The sum of the commercial quota and RHL is equivalent to the total allowable landings in a given year. The commercial quota is divided amongst the states based on the allocation percentages in the FMP, shown in Table 6. Revisions to the commercial allocations are currently being considered through the Council and Commission's Summer Flounder Commercial Issues Amendment.<sup>7</sup> Any revisions to these allocations would not be implemented until January 1, 2020 at the earliest.

<sup>7</sup> <http://www.mafmc.org/actions/summer-flounder-amendment>.

**Table 6:** The summer flounder quota allocations 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
<b>Total</b>	<b>100</b>

Specific management measures that will be used to achieve the RHL for the recreational fishery in 2019 will not be determined until later in 2018. Typically, the Council and Board review data through Wave 4 (July-August) in the current year to set specifications in the upcoming year. The Monitoring Committee meets in November to review these data and make recommendations regarding any necessary changes in the recreational management measures (i.e., bag limit, minimum size, and season). Given that MRIP time series revisions are expected in July 2018, and that the benchmark assessment is expected to revise recreational catch and landings limits in mid-2019, the Monitoring Committee and Council/Board will need to consider how the timing of 2019 recreational measures development may need to be modified to accommodate this new information.

### **Commercial Management Measures**

#### ***Commercial Gear Regulations and Minimum Fish Size***

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

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.

Summer flounder, scup, and black sea bass are all currently managed with different minimum mesh sizes (i.e. 5.5" diamond or 6" square for summer flounder, 5" diamond for scup, and 4.5" diamond for

black sea bass). A study by Hasbrouck et al. (2018)<sup>8</sup> confirmed that the current minimum mesh sizes for all three species are effective at releasing most fish smaller than the commercial minimum sizes (i.e., 14” total length for summer flounder, 9” total length for scup, and 11” total length for black sea bass). One goal of the Hasbrouck et al. study was to evaluate the potential for a common mesh size across all three species. The study was not able to identify a mesh size for all three species that would be effective at minimizing discards under the current minimum fish size limits. However, the authors concluded that a common mesh size of 4.5” or 5” diamond for scup and black sea bass would be effective at releasing undersized fish.

Council staff recommend no changes to the minimum mesh sizes for 2019. The Monitoring Committee will review the results of Hasbrouck et al. (2018) during their July 2018 meeting. If the Council wishes to consider modifications to the minimum mesh sizes, the objectives should be clarified. Possible objectives could include establishing a common minimum mesh size, minimizing discards, and/or maintaining or increasing catches of legal-sized fish; however, some of these objectives may be at odds with each other. Input from the commercial fishing industry should be sought before any minimum mesh size changes are considered. As the Monitoring Committee has noted in the past, changes to these requirements can create an economic burden for fishermen if they necessitate purchase of new nets.

Staff recommend no changes to the current 14-inch minimum fish size, gear requirements, or seasonal thresholds for 2019.

### ***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 diamond or 6.0-inch square are required to obtain a small mesh exemption program (SMEP) permit from NMFS. The exemption is designed to allow vessels to retain a bycatch of summer flounder while operating in other small-mesh fisheries.

The FMP requires that observer data be reviewed annually to determine whether vessels fishing seaward of the SMEP line with smaller than the required minimum mesh size and landing more than 200 lb of summer flounder are discarding more than 10% (by weight) of their summer flounder catch per trip. Typically, staff evaluate the Northeast Fisheries Observer Program (NEFOP) data for the period from November 1 in the previous year to April 30 in the current year. However, when this analysis is conducted in early July, complete observer data is not yet available through the end of April in the current year. As such, a year-long lag in the analysis is used.

Staff evaluated NEFOP data for November 1, 2016 through April 30, 2017. These data indicate that a total of 555 trips with at least one tow were observed east of 72° 30.0'W and 376 of these trips used small mesh (Table 7). Of those 376 trips, 150 trips reported landing more than 200 lb of summer flounder. Of those 150 trips, 36 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 6.5% (36/555 trips). The prior year percentage of trips that met the criteria, also shown in Table 7, was about 4.6%. This percentage has seen small increases over the last several years, and the Monitoring Committee should continue to closely monitor the use of this exemption program. If the rate

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<sup>8</sup> Available at: [http://www.mafmc.org/s/Tab08\\_SFSBSB-Mesh-Selectivity-Study-Apr2018.pdf](http://www.mafmc.org/s/Tab08_SFSBSB-Mesh-Selectivity-Study-Apr2018.pdf)

of trips meeting these criteria continues to increase, the Monitoring Committee should consider modifications to this program.

For an unrelated action in 2017, GARFO staff compiled the number of vessels issued a letter of authorization (LOA) for the small mesh exemption program in recent years, shown in Table 8, indicating that an average of 64 summer flounder permit holders have requested this LOA from 2013 through 2017.

Based on the information described above, staff recommend no change in the SMEP program, however, the rates of summer flounder discarding should continue to be closely tracked by the Monitoring Committee.

**Table 7:** Numbers of trips that meet specific criteria based on observed trips from November 1, 2015 to April 30, 2016, and November 1, 2016 to April 30, 2017.

Criteria		Nov. 1, 2015 – April 30, 2016	Nov. 1, 2016 – April 30, 2017
A	Observed trips with at least one catch record east of 72° 30' W Longitude	391	555
B	That met the criteria in row A <u>and</u> used small mesh at some point during their trip	252	376
C	That met the criteria in rows A-B <u>and</u> landed more than 200 pounds summer flounder on whole trip	92	150
D	That met the criteria in rows A-C <u>and</u> discarded >10% of summer flounder catch east of 72° 30' W Longitude	18	36
E	% of observed trips with catch east of 72° 30' W Longitude that also used small mesh, landed >200 pounds of summer flounder, and discarded >10% of summer flounder catch (row D/row A)	4.6%	6.5%
F	Total summer flounder discards (pounds) from trips meeting criteria in A-D	16,470	14,640
G	Total summer flounder landings (pounds) from trips meeting criteria in A-D	23,295	25,472
H	Total catch (pounds) from trips meeting criteria in A-D	39,765	40,113

**Table 8:** Number of vessels issued the small mesh LOA from fishing year 2013-2017.

Year	Vessels Enrolled
2013	71
2014	55
2015	65
2016	61
2017	69

### **Flynet Exemption Program**

Vessels fishing with a two-seam otter trawl flynet are also exempt from the minimum mesh size requirements. Exempt flynets have large mesh in the wings that measure 8 to 64 inches, the belly of the net has 35 or more meshes that are at least 8 inches, and the mesh decreases in size throughout the body of the net to 2 inches or smaller. Only North Carolina has a flynet fishery at present. The supplemental memo from T.D. VanMiddlesworth dated June 22, 2018 (see Attachment) indicates that no summer flounder were landed in the North Carolina flynet fishery in 2015, 2016, or 2017. 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. Staff also note that scup and black sea bass were landed in the North Carolina flynet fishery in 2017, and the Monitoring Committee should consider whether similar exemptions should be explored for these species.



ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

STEPHEN W. MURPHEY  
*Director*

**Memorandum**

**To:** Kiley Dancy, MAFMC

**From:** Todd Daniel VanMiddlesworth, NCDMF

**Date:** June 22, 2018

**Subject:** Species composition and landings from the 2017 North Carolina fly net fishery

The 2017 North Carolina fly net species composition and landings in pounds are provided in Table 1. Individual landings listed as “other species” are not reported because the data are confidential and cannot be distributed to sources outside the North Carolina Division of Marine Fisheries (North Carolina General Statute 113-170.3 (c)). Confidential data can only be released in a summarized format that does not allow the user to track landings or purchases to an individual. Summer flounder were not landed in the 2015, 2016 or 2017 fly net fishery. Note that fly net landings for most species were lower in 2017 than in 2016. Additionally, total fly net landings in 2017 were lower than those in 2016 which may be the result of reduced fishing effort on targeted fish species and increased shoaling at Oregon Inlet resulting in limited access of fly net boats to North Carolina ports.





Table 1. Species composition and landings for 2017 North Carolina fly net fishery. Species with confidential landings are listed under “Other Species”.

<u>Species</u>	<u>Weight (lb)</u>	<u>Percent</u>
Atlantic croaker	51,740	39.46
black sea bass	23,582	17.99
scup	18,859	14.38
other species*	36,923	28.16
<b>Total</b>	<b>131,104</b>	<b>100.00</b>

\*Those species with confidential landings included bluefish, butterfish, cobia, cutlassfish (ribbonfish), hakes (ling), Atlantic menhaden bait (lbs), monkfish (whole), sea mullet (kingfish), spot, squid, loligo squid (lbs), starbutter (harvestfish) and trout (gray trout).



## Summer flounder Data and Projection Update for 2018

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

Reported 2017 landings in the commercial fishery were 2,644 mt = 5.829 million lbs, about 103% of the commercial quota (2,567 mt = 5.659 million lbs). Estimated 2017 landings in the recreational fishery were 1,447 mt = 3.190 million lbs, about 85% of the recreational harvest limit (1,711 mt = 3.772 million lbs). Total commercial and recreational landings in 2017 were 4,091 mt = 9.019 million lbs and total commercial and recreational discards were 1,280 mt = 2.822 million lbs, for a total catch in 2017 of 5,371 mt = 11.841 million lbs (Table 1, Figure 1), about 5% above the 2017 ABC of 5,125 mt = 11.299 million lbs. The total catch in 2017 was the lowest in the assessment time series (1982-2017).

State and Federal survey abundance and biomass indices generally have decreased from their most recent peaks during 2009-2012 to 2017 (Figures 2-11), with the exception of the Massachusetts and Delaware indices. Massachusetts indices decreased in 2017 from their time series peaks in 2016. The Delaware index peaked in 2017. Indices of recruitment (age 0 fish) were generally lower over the last 6-7 years than in the previous decade; recruitment indices in 2017 were highly variable (Figures 12-18). The Massachusetts and one of the Delaware recruitment indices were high in 2017. Note that the NEFSC Fall survey was unable to sample the summer flounder strata in 2017 so no indices are available (Figures 2 & 4). The NEFSC Spring biomass index increased by 87% from 2017 to 2018 (Figures 2-3).

Projections using the existing 2016 updated assessment model (data through 2015) were made to estimate the 2019 OFL and ABC catches. The projections use the reported/estimated catches for 2016 and 2017 and assume that 100% of the 2018 ABC (5,999 mt = 13.226 million lbs) will be caught. The OFL projection uses  $F_{2019} = F_{MSY} = 0.309$  and so the total catch in 2019 is the projected OFL = 9,343 mt (20.598 million lbs). The ABC projection sets the CV of the OFL at 60% (MAFMC SSC assumption for summer flounder in 2016) and so the total catch in 2019 is the projected ABC = 6,988 mt (15.406 million lbs), about 75% of the projected OFL (Table 2).

Table 1. Commercial (comm) and recreational (recr) fishery landings, estimated commercial and recreational dead discard, and total catch (metric tons) as used in the assessment of summer flounder, Maine to North Carolina. Includes MRIP 2004-2017 estimates of recreational catch, and 1982-2003 recreational catch adjusted by the 2004-2011 MRIP to MRFSS ratio for each catch type.

Year	Comm Landings	Comm Discard	Comm Catch	Recr Landings	Recr Discard	Recr Catch	Total Landings	Total Discard	Total Catch
1982	10,400	n/a	10,400	8,163	284	8,447	18,563	284	18,847
1983	13,403	n/a	13,403	12,527	361	12,888	25,930	361	26,291
1984	17,130	n/a	17,130	8,405	399	8,804	25,535	399	25,934
1985	14,675	n/a	14,675	5,594	88	5,682	20,269	88	20,357
1986	12,186	n/a	12,186	8,000	555	8,555	20,186	555	20,741
1987	12,271	n/a	12,271	5,450	502	5,951	17,721	502	18,222
1988	14,686	n/a	14,686	6,550	328	6,878	21,236	328	21,564
1989	8,125	456	8,581	1,417	43	1,460	9,542	499	10,041
1990	4,199	898	5,097	2,300	225	2,525	6,499	1,122	7,621
1991	6,224	219	6,443	3,566	412	3,978	9,790	631	10,420
1992	7,529	2,151	9,680	3,201	332	3,533	10,730	2,483	13,213
1993	5,715	701	6,416	3,956	874	4,830	9,671	1,575	11,246
1994	6,588	1,535	8,123	4,178	660	4,838	10,766	2,195	12,961
1995	6,977	821	7,798	2,428	723	3,152	9,405	1,545	10,950
1996	5,861	1,436	7,297	4,398	656	5,054	10,259	2,092	12,351
1997	3,994	806	4,800	5,314	535	5,849	9,308	1,341	10,649
1998	5,076	634	5,710	5,588	705	6,293	10,664	1,339	12,003
1999	4,820	1,660	6,480	3,747	683	4,430	8,567	2,343	10,910
2000	5,085	1,617	6,702	7,376	915	8,291	12,461	2,532	14,993
2001	4,970	405	5,375	5,213	1,225	6,438	10,183	1,630	11,813
2002	6,573	922	7,495	3,586	746	4,332	10,159	1,668	11,827
2003	6,450	1,144	7,594	5,213	847	6,060	11,663	1,991	13,653
2004	7,880	1,606	9,486	4,974	1,013	5,987	12,854	2,619	15,473
2005	7,671	1,484	9,155	4,929	950	5,879	12,600	2,434	15,034
2006	6,316	1,482	7,798	4,804	768	5,572	11,120	2,250	13,370
2007	4,544	2,110	6,654	4,199	1,002	5,201	8,743	3,112	11,855
2008	4,179	1,162	5,341	3,689	1,154	4,843	7,868	2,316	10,184
2009	5,013	1,446	6,459	2,716	1,140	3,856	7,729	2,586	10,316
2010	6,078	1,466	7,544	2,317	1,066	3,383	8,395	2,532	10,927
2011	7,515	1,096	8,611	2,645	1,093	3,738	10,160	2,189	12,349
2012	5,916	718	6,634	2,853	815	3,668	8,769	1,533	10,302
2013	5,643	712	6,355	3,351	758	4,109	8,994	1,470	10,464
2014	4,991	785	5,776	3,356	932	4,288	8,347	1,717	10,064
2015	4,843	670	5,513	2,209	563	2,772	7,052	1,233	8,285
2016	3,542	738	4,280	2,804	671	3,475	6,346	1,409	7,755
2017	2,644	854	3,498	1,447	426	1,873	4,091	1,280	5,371

Table 2. Summer flounder 2019 OFL and ABC Projections.

**OFL Projection:** Projection assumes that 100% of the 2018 ABC (5,999 mt = 13.226 million lbs) will be caught. Total catch in 2019 is the projected 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	7,750	6,341	1,409	0.327	39,428
2017	5,371	4,091	1,280	0.214	43,107
2018	5,999	5,010	989	0.215	48,389
2019	9,343	7,780	1,563	0.309	51,225

**ABC Projection:** Projection assumes that 100% of the 2018 ABC (5,999 mt = 13.226 million lbs) will be caught. Total catch in 2019 is the projected ABC. Projection sets the CV of the OFL at 60% (MAFMC SSC assumption for summer flounder in 2016).

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

Year	Total Catch	Existing ABC	Landings	Discards	F	P* value	SSB
2016	7,750	7,375	6,341	1,409	0.327	0.641	39,248
2017	5,371	5,125	4,091	1,280	0.214	0.010	43,107
2018	5,999	5,999	5,010	989	0.215	0.100	48,389
2019	6,988	n/a	5,834	1,154	0.225	0.300	53,198

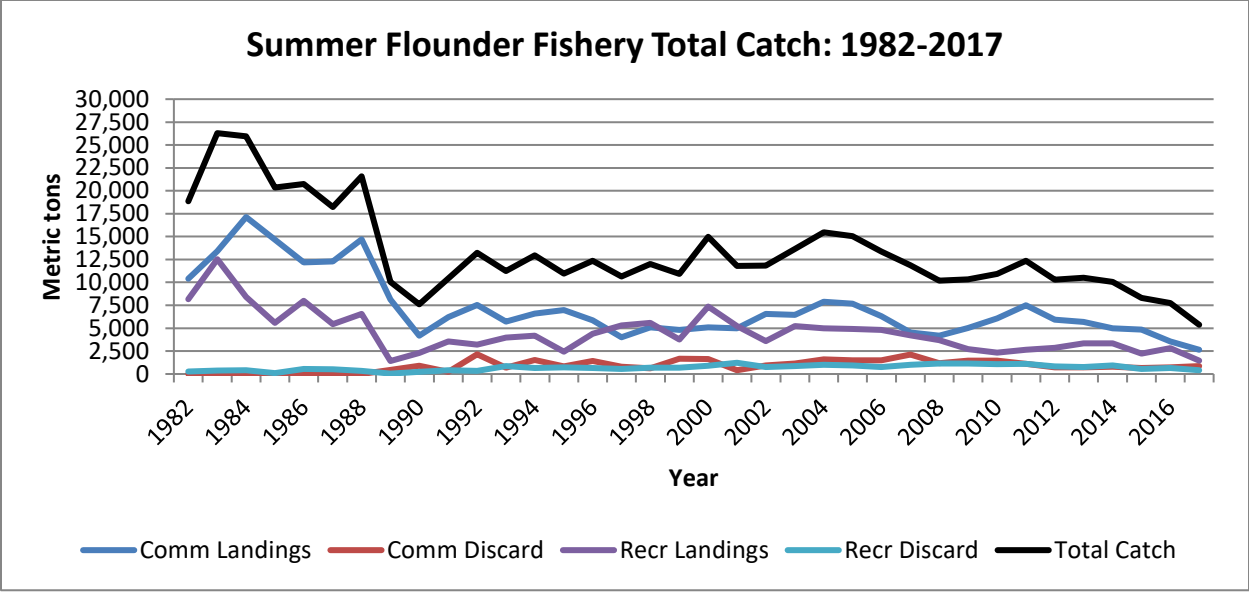


Figure 1. Summer flounder fishery total catch.

## NEFSC Trawl Surveys

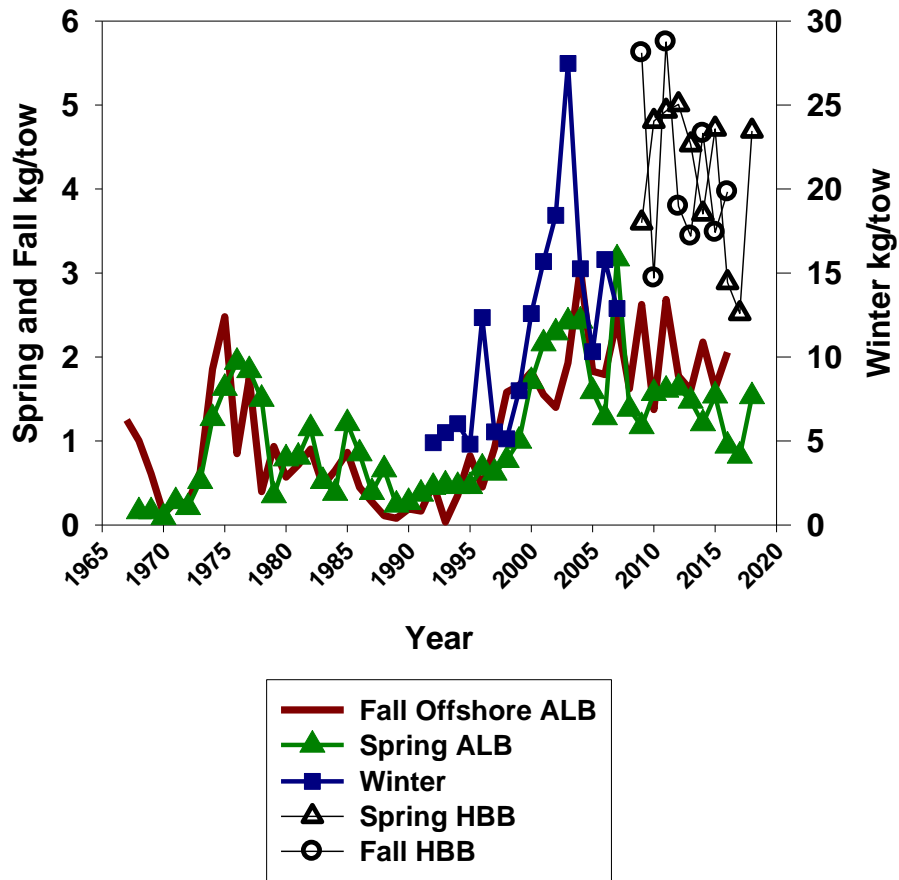


Figure 2. NEFSC trawl survey biomass indices for summer flounder. ‘ALB’ indices are calibrated FSV Albatross IV indices; ‘HBB’ indices are uncalibrated FSV Bigelow indices.

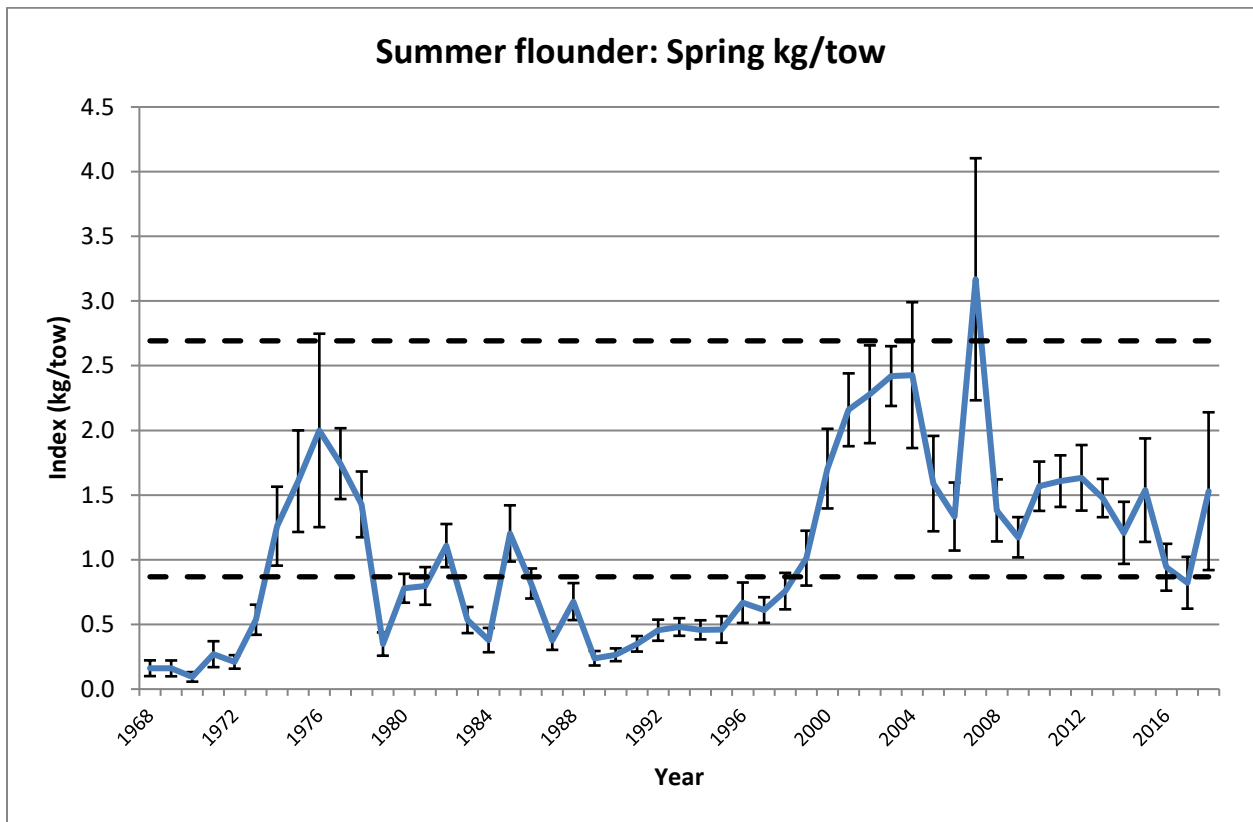


Figure 3. NEFSC spring trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing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

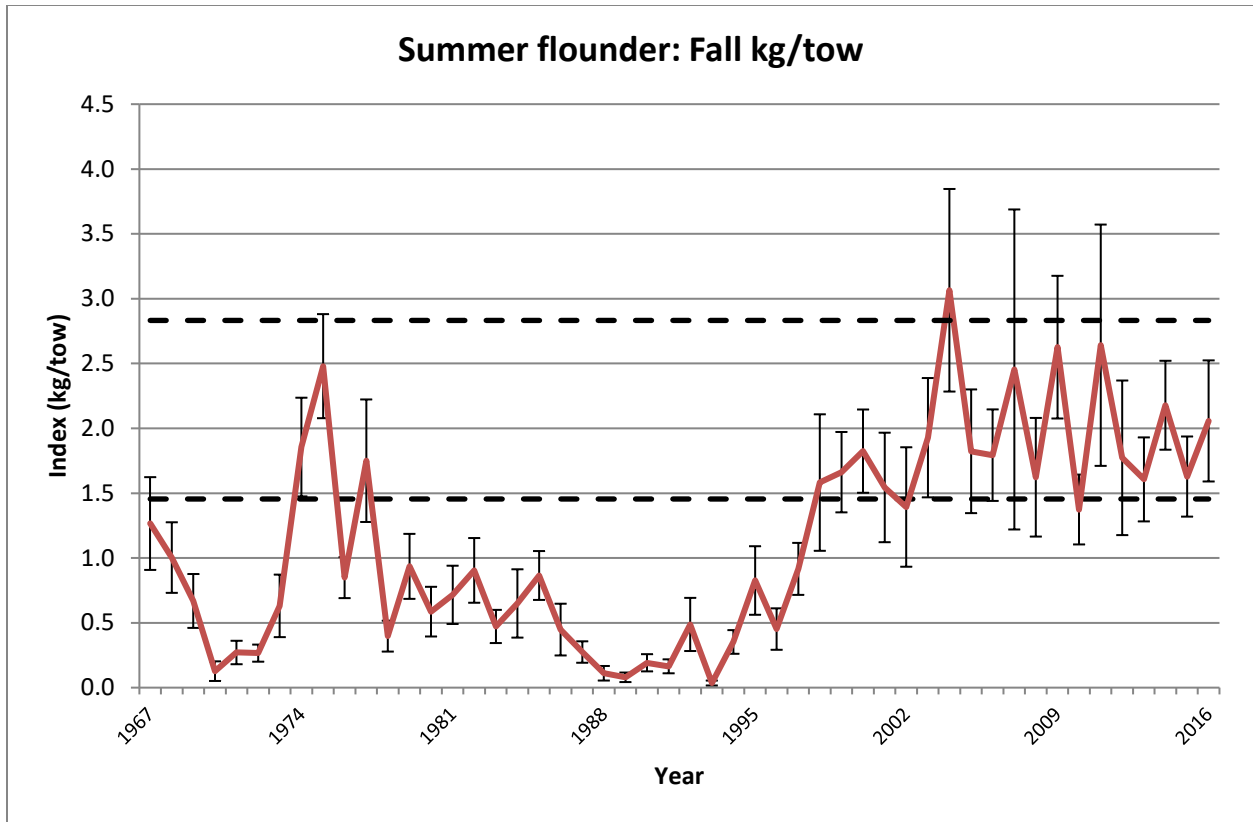


Figure 4. NEFSC fall trawl survey indices of summer flounder biomass. Whiskers around each annual index represent +/- one standard deviation. Dashed lines represent 80% confidence intervals around the 2007-2011 mean, a period when the stock was estimated to be at or above SSBMSY and not experiencing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



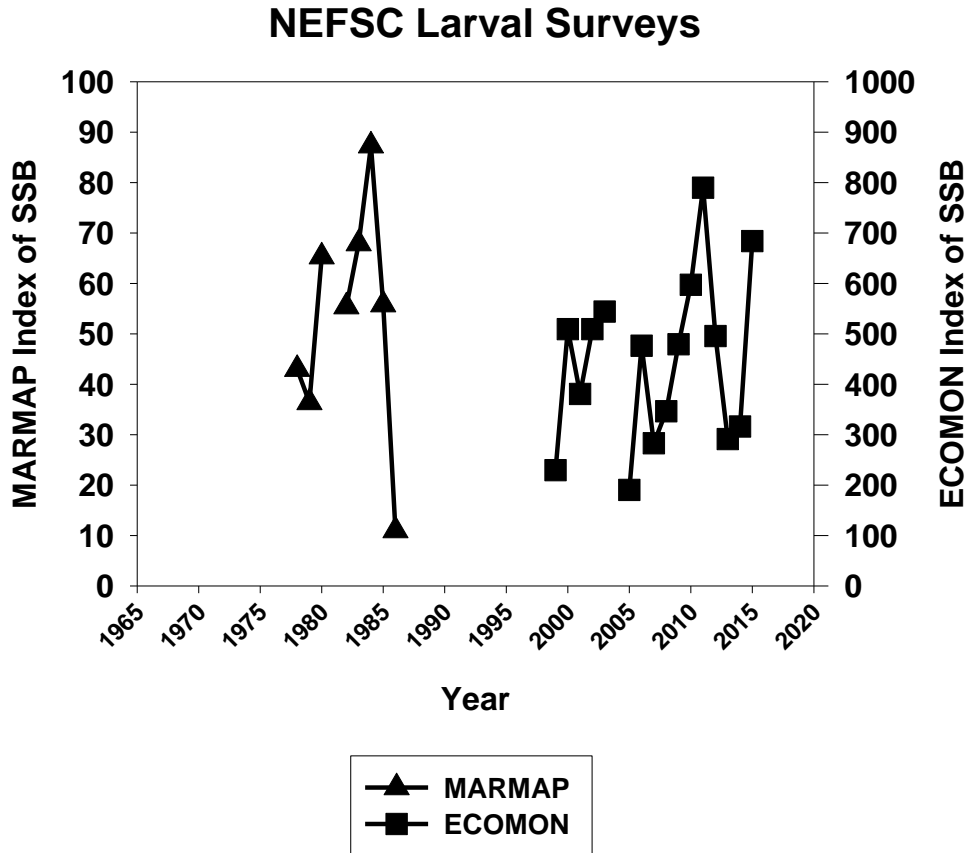


Figure 5. NEFSC larval survey indices of summer flounder spawning stock biomass (SSB).

### MA Trawl Surveys

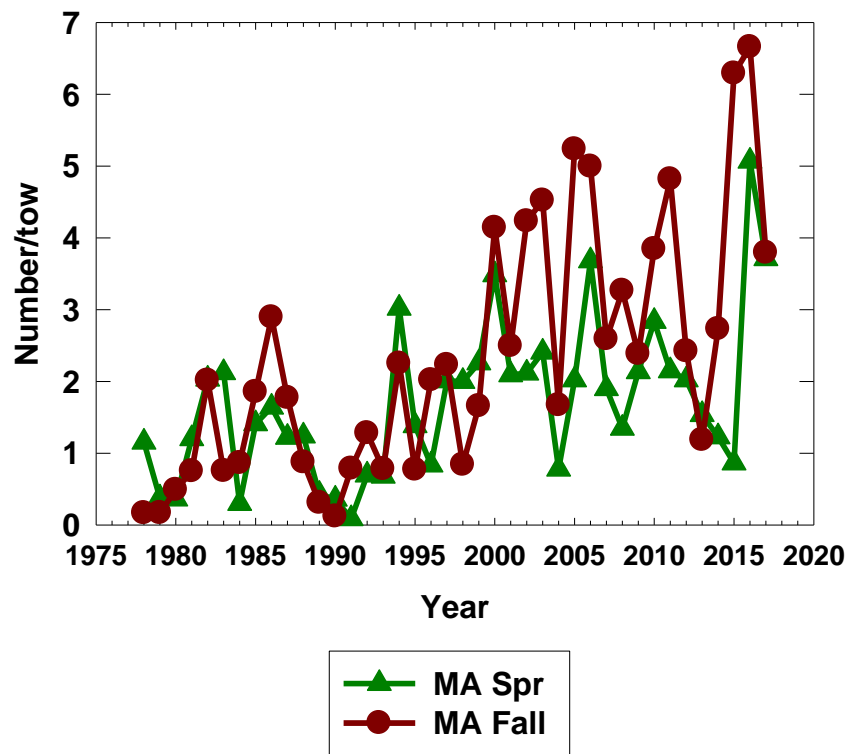


Figure 6. MADMF trawl survey indices for summer flounder.

# RI Trawl Surveys

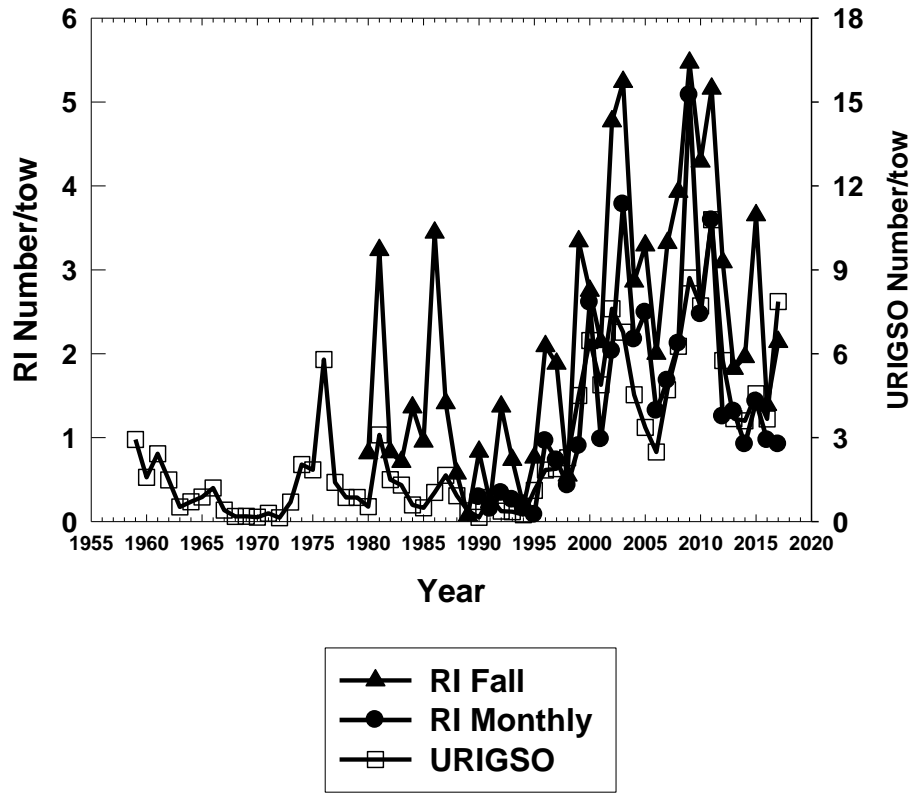


Figure 7. RIDFW and URIGSO trawl survey indices for summer flounder.

# CT and NY Trawl Surveys

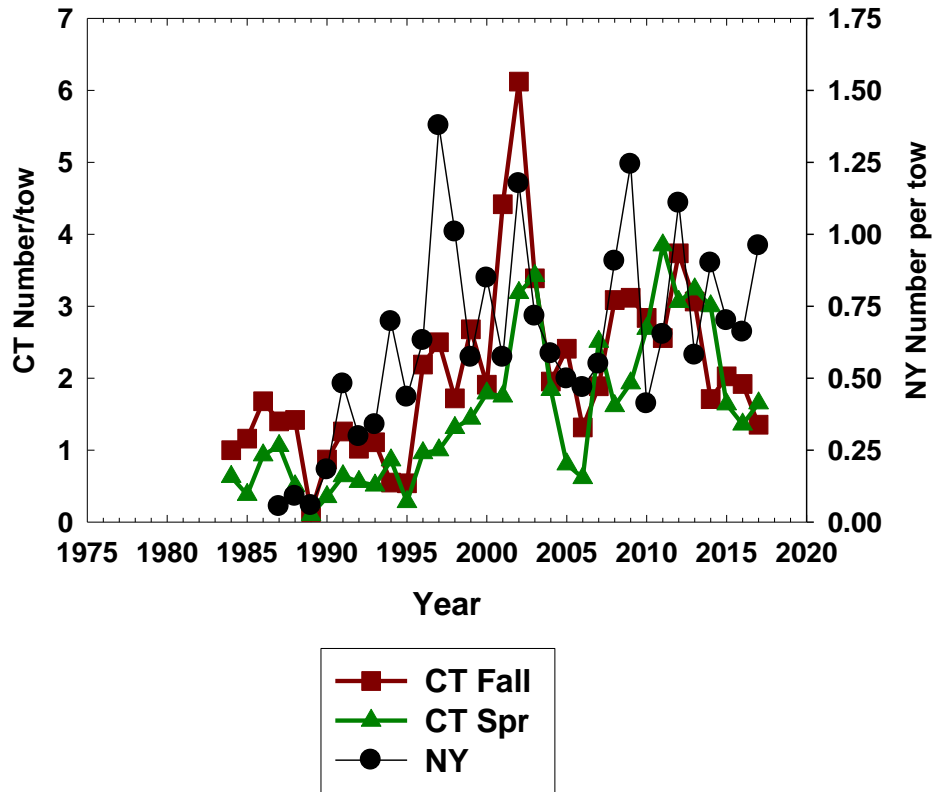


Figure 8. CTDEP and NYDEC trawl survey indices for summer flounder.

### NJ and DE Trawl Surveys

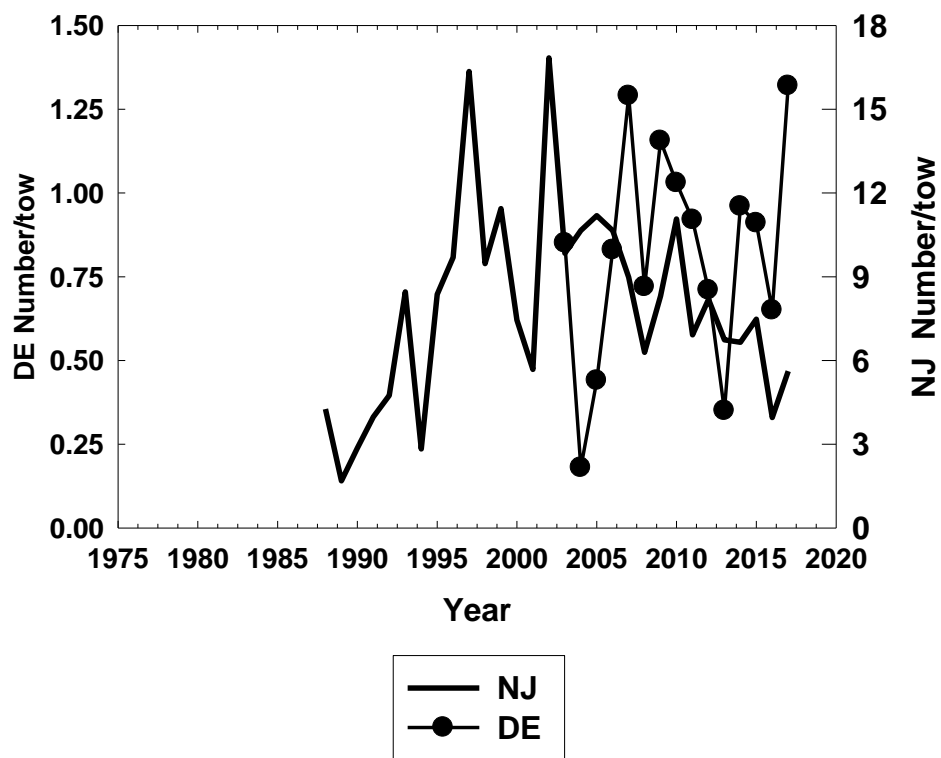


Figure 9. NJDMF and DEDFW trawl survey indices for summer flounder.

## ChesMMap and NEAMAP Trawl Surveys

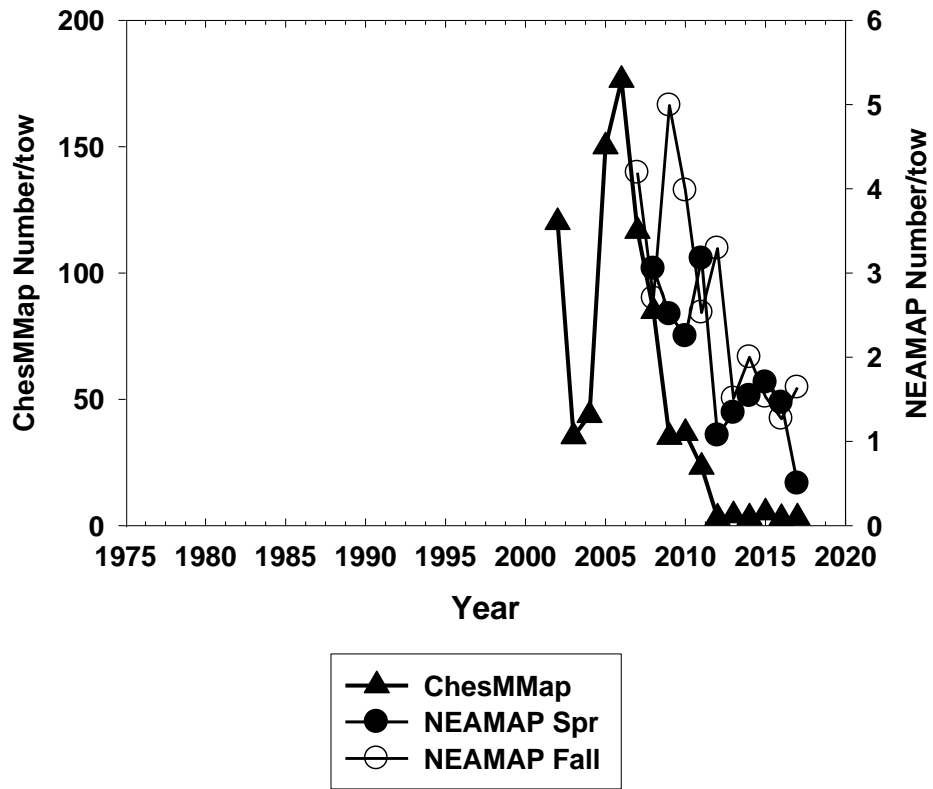


Figure 10. ChesMMap and NEAMAP trawl survey indices for summer flounder.

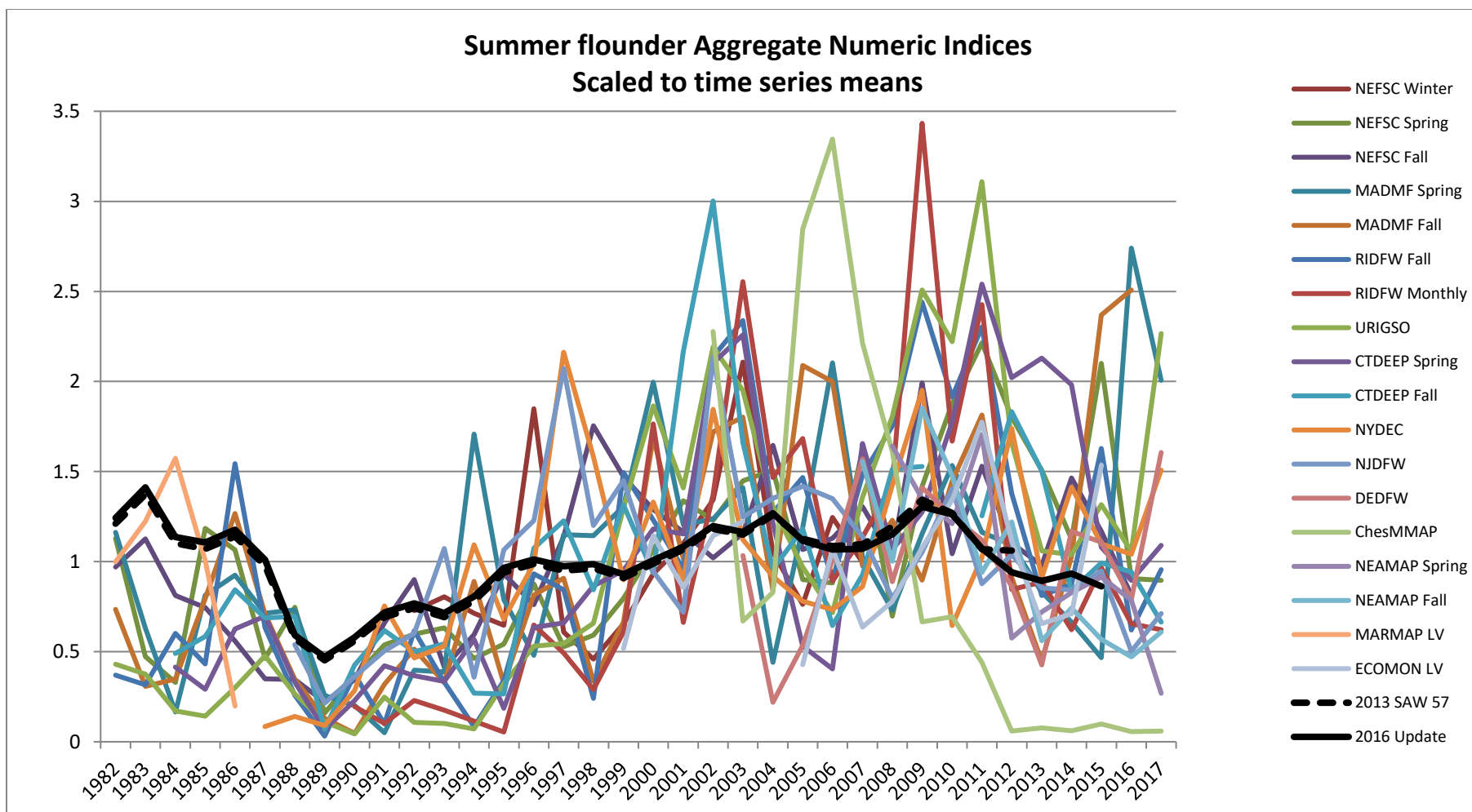


Figure 11. Summer flounder aggregate indices of numeric abundance.

### NEFSC Fall Age 0 Index

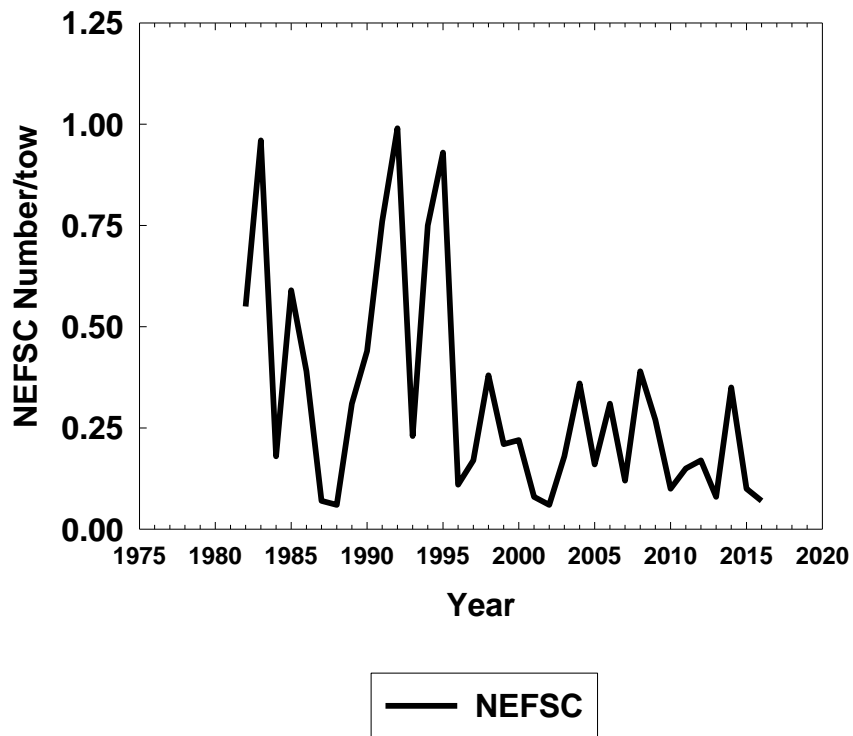


Figure 12. NEFSC age 0 abundance indices for summer flounder.



### MA and RI Age 0 Indices

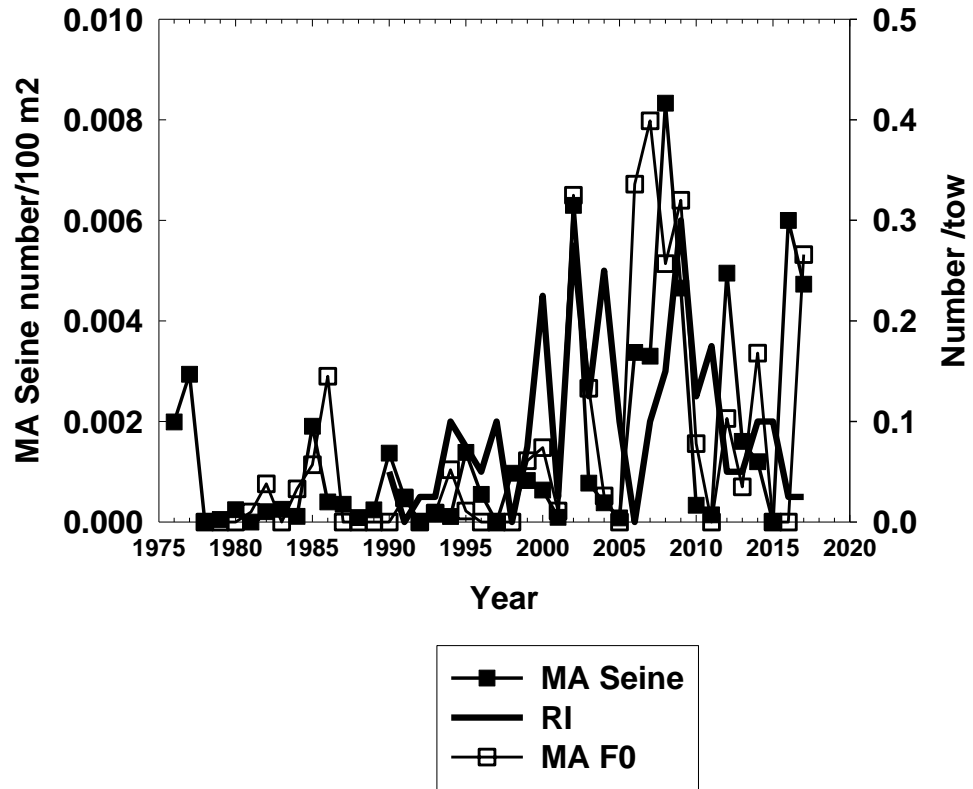


Figure 13. MADMF and RIDFW age 0 abundance indices for summer flounder.

### CT, NY and NJ Age 0 Indices

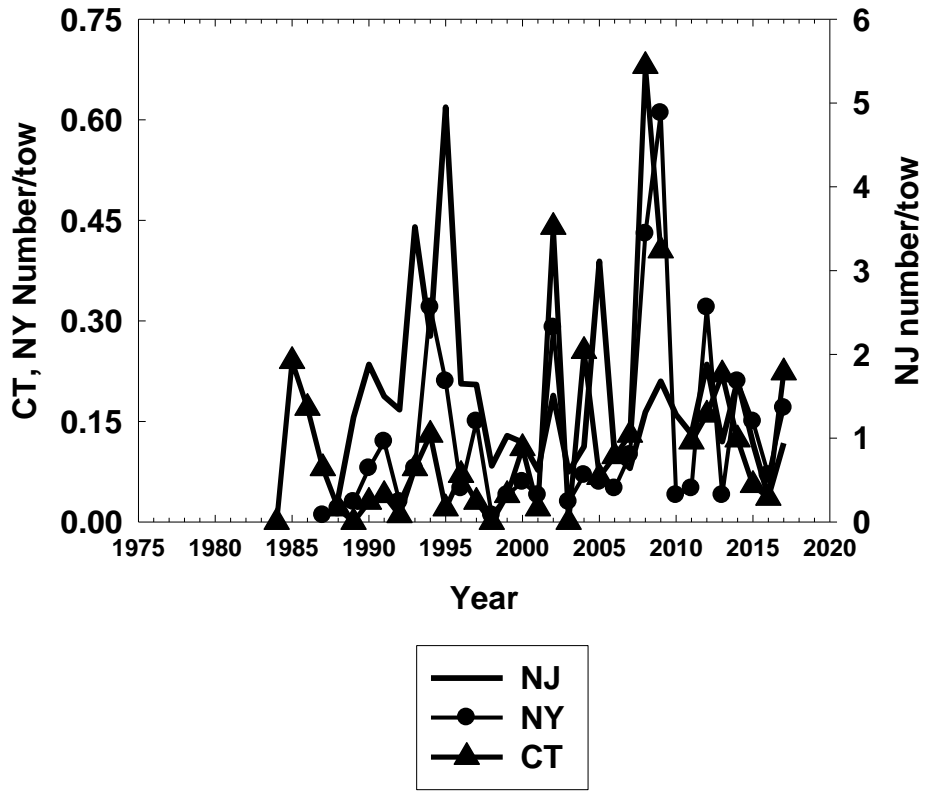


Figure 14. CTDEP, NYDEC, and NJDFW age 0 abundance indices for summer flounder.

### DE Age 0 Indices

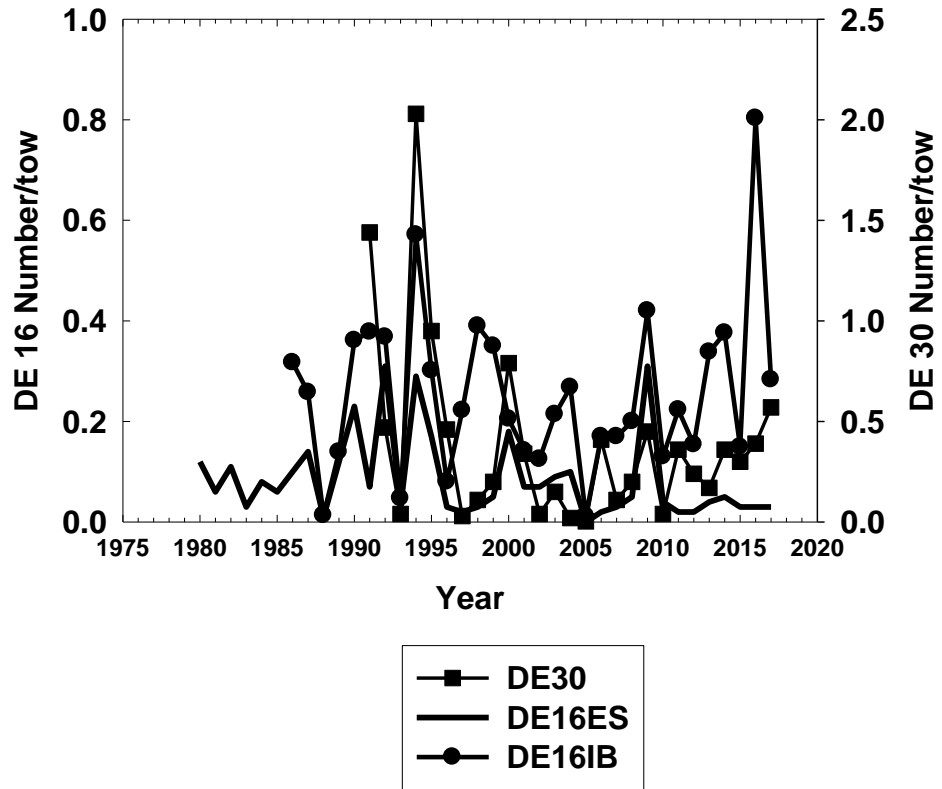


Figure 15. DEDFW age 0 abundance indices for summer flounder.

### MD, VIMS and NC Age 0 Indices

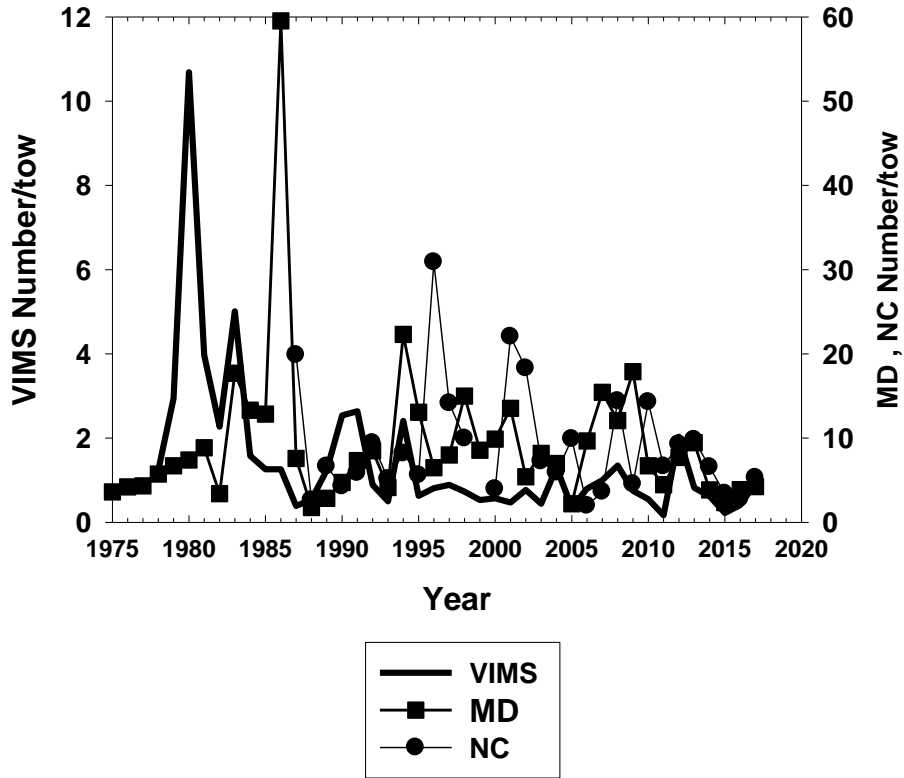


Figure 16. MDDNR, VIMS, and NCDMF age 0 abundance indices for summer flounder.

### ChesMMAAP and NEAMAP Age 0 Indices

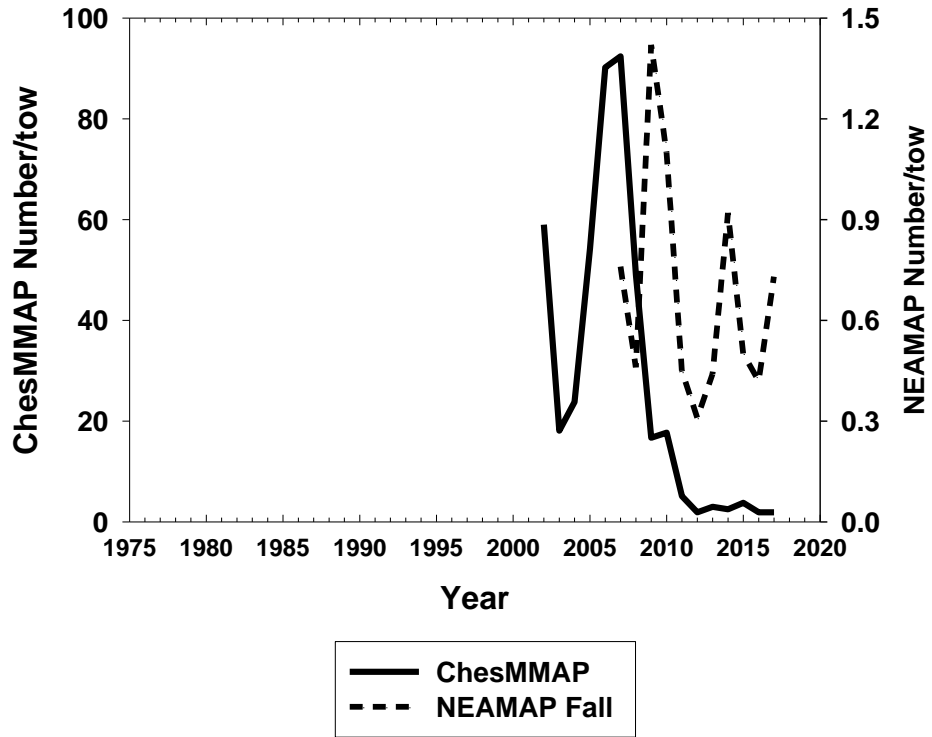


Figure 17. ChesMMAAP and NEAMAP age 0 abundance indices for summer flounder.

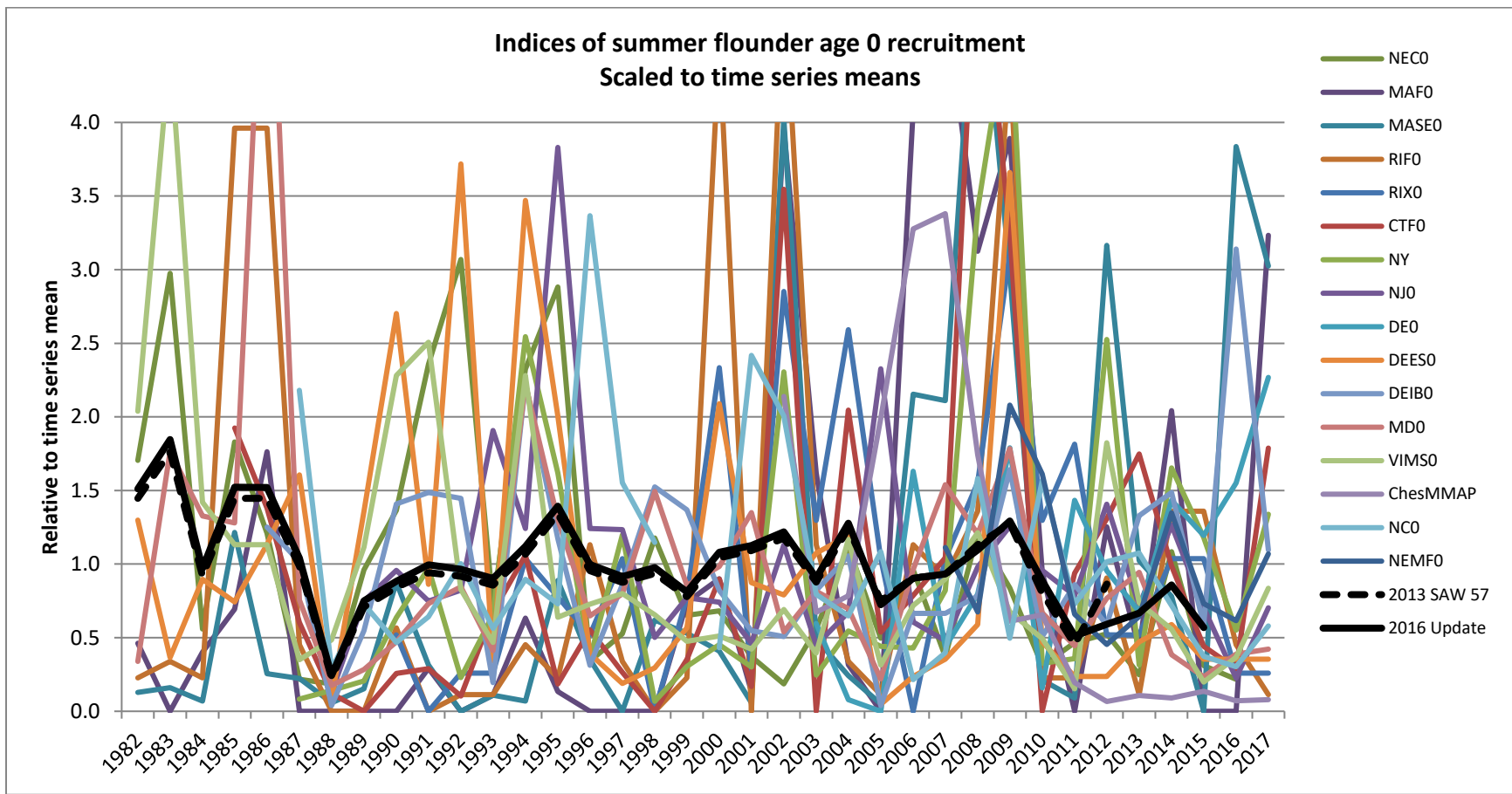


Figure 18. Summer flounder age 0 recruitment indices.

## Kiley Dancy

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**From:** Moore, Christopher  
**Sent:** Tuesday, July 31, 2018 8:40 PM  
**To:** Beaty, Julia; Kiley Dancy  
**Subject:** Fw: August Meeting on Flounder

fyi

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**From:** Gene Doebley <gdoebley@gmail.com>  
**Sent:** Tuesday, July 31, 2018 8:10 PM  
**To:** Moore, Christopher  
**Subject:** August Meeting on Flounder

Dr. Chris Moore

RE: The MAFMC and ASMFC meeting Aug 13 to 15

I wish to take this opportunity to offer comment on the current state of fluke management.

The issue as I see it is that the current regulations have us killing all the breeding females. Almost all fish over 18" are females and setting regulations that kill the breeding stock is counterproductive to population growth. We need to reduce the current 18" minimum size. We are killing too many fish due to dead discards while trying to find a keeper, especially in South Jersey where the fish are smaller. A slot fish would solve this problem and allow fishermen to take a fish home.

South Jersey and North Jersey are geologically different. We need to set different regulations to recognize this difference and address the fact that we do not have the large schools of big fluke in the south. The current Delaware Bay regulation for NJ could be expanded to cover the incubator areas in NJ's shallow bays by moving the dividing line to below 40degrees N and inside the ColRegs line.

Thank you for your consideration.

Gene Doebley  
Somers Point, NJ

## Kiley Dancy

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**From:** Moore, Christopher  
**Sent:** Wednesday, August 1, 2018 10:27 AM  
**To:** Beaty, Julia; Kiley Dancy  
**Subject:** Fw: Fluke Regulations

fyi

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**From:** william tedor <wtedor@comcast.net>  
**Sent:** Tuesday, July 31, 2018 9:10 PM  
**To:** Moore, Christopher  
**Subject:** Fluke Regulations

Dear Mr Moore,

I am writing to you to voice my opinion for 2019 New Jersey Fluke regulations. I believe that these regulations should be in line with Delaware and Maryland Regulations with a 16 and 1/2 inch size limit. The reasoning for this belief is by keeping all 18 inch and over fluke we are taking all the females out of the population and causing the stock to be depleted. Another good reason to lower the size limit is it would cut down on the dead loss from catch and release fish below 18 inches. The mortality rate for these fish is supposedly very high and this would partially address this problem. I would also like to have the season of Delaware and Maryland but realize this may not be feasible. Thank you for giving me this forum to voice my opinion. Bill Tedor



## Kiley Dancy

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**From:** Moore, Christopher  
**Sent:** Wednesday, August 1, 2018 1:54 PM  
**To:** Kiley Dancy; Beaty, Julia  
**Subject:** FW: NJ Fluke Regs

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**From:** Jeff Hale <jhale@sudlerco.com>  
**Sent:** Wednesday, August 1, 2018 1:29 PM  
**To:** Moore, Christopher <cmoore@mafmc.org>  
**Subject:** NJ Fluke Regs

Dear Sir:

I have been fishing recreationally for Fluke for many years. As the size requirements increase for a 'keeper', the outcome is increasingly producing smaller fish.

Your system is inverted and discourages population growth:

- More and more throw backs, sometimes it's a 12-16/1 ratio to 'find' a keeper.
- These shorts are returned/ released in stressed condition and sometimes gut hooked and dead.
- The 'keepers' are the breeders, which are what is being taken out of the bio mass.

Solution:

- Create a slot fish and a limit; 16" with a limit of 4 per angler per day.
- Plus one 'trophy' fish....20" plus per angler per day.

Benefits:

- Reduction of mortality of short fish and discards.
- Less pressure on the breeder stock...hopefully increasing the breeder stock and bio mass.

It seems to me that there is an abundance of 16" 17" fish on my trips. I see sometimes 10-20 shorts in the 15" – 17" range per trip. Most people never hit their 3 fish keeper limit.

I think the fishery needs a slot category. The current system is not effective.

Regards,

Jeffrey H. Hale  
Vice President - Leasing  
The Sudler Companies

[www.sudlerco.com](http://www.sudlerco.com)

## Kiley Dancy

---

**From:** Moore, Christopher  
**Sent:** Wednesday, August 1, 2018 2:41 PM  
**To:** Kiley Dancy; Beaty, Julia  
**Subject:** FW: Future NJ Fluke Regulations

fyi

**From:** Kevin Sullivan <admin@kpsullivan.net>  
**Sent:** Wednesday, August 1, 2018 2:36 PM  
**To:** Moore, Christopher <cmoore@mafmc.org>  
**Subject:** Future NJ Fluke Regulations

Dr. Moore

First and foremost, thank you in advance for taking the time to read this message and thank you as well for your work in the MAMFC; I firmly believe that we share the same passionate desire to maintain a healthy and sustainable fishery in the mid-Atlantic.

The reason that I am sending this message today is to voice concerns that I have over the management of the summer flounder fishery in New Jersey, particularly South Jersey. As you certainly know, we are currently faced with an 18" limit on summer flounder with a per-angler limit of three fish per-day with limited exceptions for both the Delaware Bay as well as Island Beach State Park. The concern that I have, however, is that this size requirement would give the outward appearance of doing more potential harm to this fishery than good.

While I most certainly do not have advanced degrees in the field or anywhere near the experience of someone with your credentials and in your position, I fear that our current regulations are causing significant problems within the fluke biomass. My reasons for this are two-fold. First, the size requirement of what constitutes a fish which may be harvested seems to be honing in recreational angler's harvesting target on those fish which are most likely to be the larger breeding females. By harvesting and removing these fish, are we not hurting the next generation of this fishery? Also, while my information is more anecdotal than analytical, I believe that in the waters of South Jersey, it is actually uncommon for male fluke to reach the 18" or larger size required to potentially be harvested. If true, this would mean that anglers are being specifically encouraged to damage the portion of the stock which should be most protected, the egg-carrying, mature females.

Secondarily, I also believe these regulations have created a new issue, or at the very least, exacerbated an existing one in the form of by-catch mortality. With the new 18" regulations, a significant number of 14"-18" fish are being caught by recreational anglers and released; however, some of the statistics that I have seen have sited an up-to 60% mortality rate among these fish even when handled properly for release. This is extremely alarming because now, not only are we potentially targeting the fish which are most likely to replenish the stock naturally, but we are also culling the existing stock through by-catch mortality as anglers are being forced to 'sort through' the overwhelming majority of 14-18" fish while searching for an 18" fish to be harvested.

I realize that NJ, specifically, can pose some unique challenges as the Northern half of the state and the southern half of the state are significantly different in terms of fisheries. I believe this is extremely evident by comparing the NJ regulations to those of Delaware to our immediate South and New York to our immediate North. While Delaware, whose waters are very much like that of South Jersey to the extent of having special regulations in DE Bay which are NJ waters, has a regulation of 16.5" with a 4-fish limit, but open year-round. On the other hand, New York has a 19"

requirement with a 4-fish limit and is open only between May 4th and September 30th. This seems to clearly illustrate a significant change in the fishery which occurs in the 130 miles of NJ coastline.

While I may not have your experience or education, I remain a firm believer in never highlighting a problem without offering a potential solution, so if I may be so bold as to make a suggestion, I would ask that the MAFMC please consider altering NJ regulations in one of two methods. First, I'd ask that simply consider dividing the state into two areas which would allow for more geocentric management which is specific to the regional biomass which seems to vary dramatically between the northern and southern parts of the state. Perhaps, given its already exempted status, Island Beach State Park could serve as the dividing line between these two regions. Should regionalization not prove possible, I would then ask that you please consider changing future regulations to something which would not have the negative impact on the biomass which current regulations do. My first instinct is to propose something along the lines of a 3-fish limit with 2 fish 16-18" and one fish which is permitted to be over 18" as a 'trophy fish' of sorts. I believe this approach will have a positive impact in two ways. First, it will lessen the culling which is occurring as part of the by-catch mortality of anglers releasing 16-18" fluke while pursuing 18"+ fish. Secondly, it should lessen the pressure on the larger prime-breeding fluke which are in the 18"+ class.

I appreciate the time you have taken to read this email, and I do appreciate the work that the MAFMC does. I believe that we share the same goals despite envisioning different ways of achieving them, and I hope that some of these suggestions could be taken into consideration as I sternly fear that our current summer flounder regulations will have a significant negative impact on this fishery if they remain unchanged; further, I believe that any size increase in the current regulations would only expound the current issues rather than alleviating them.

Thank you very much for your time.

Sincerely,

Kevin P. Sullivan

## Kiley Dancy

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**From:** Moore, Christopher  
**Sent:** Wednesday, August 1, 2018 6:13 PM  
**To:** Kiley Dancy; Beaty, Julia  
**Subject:** Fw: NJ Fluke Regs

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**From:** Ed Fiorentino <edward\_fiorentino@comcast.net>  
**Sent:** Wednesday, August 1, 2018 5:46 PM  
**To:** Moore, Christopher  
**Subject:** NJ Fluke Regs

*Dr. Moore*

*First and foremost, thank you in advance for taking the time to read this message and thank you as well for your work in the MAMFC; I firmly believe that we share the same passionate desire to maintain a healthy and sustainable fishery in the mid-Atlantic.*

*The reason that I am sending this message today is to voice concerns that I have over the management of the summer flounder fishery in New Jersey, particularly South Jersey. As you certainly know, we are currently faced with an 18" limit on summer flounder with a per-angler limit of three fish per-day with limited exceptions for both the Delaware Bay as well as Island Beach State Park. The concern that I have, however, is that this size requirement would give the outward appearance of doing more potential harm to this fishery than good.*

*While I most certainly do not have advanced degrees in the field or anywhere near the experience of someone with your credentials and in your position, I fear that our current regulations are causing significant problems within the fluke biomass. My reasons for this are two-fold. First, the size requirement of what constitutes a fish which may be harvested seems to be honing in recreational angler's harvesting target on those fish which are most likely to be the larger breeding females. By harvesting and removing these fish, are we not hurting the next generation of this fishery? Also, while my information is more anecdotal than analytical, I believe that in the waters of South Jersey, it is actually uncommon for male fluke to reach the 18" or larger size required to potentially be harvested. If true, this would mean that anglers are being specifically encouraged to damage the portion of the stock which should be most protected, the egg-carrying, mature females.*

*Secondarily, I also believe these regulations have created a new issue, or at the very least, exacerbated an existing one in the form of by-catch mortality. With the new 18" regulations, a significant number of 14"-18" fish are being caught by recreational anglers and released; however, some of the statistics that I have seen have sited an up-to 60% mortality rate among these fish even when handled properly for release. This is extremely alarming because now, not only are we potentially targeting the fish which are most likely to replenish the stock naturally, but we are also culling the existing stock through by-catch mortality as anglers are being forced to 'sort through' the overwhelming majority of 14-18" fish while searching for an 18" fish to*

be harvested.

*I realize that NJ, specifically, can pose some unique challenges as the Northern half of the state and the southern half of the state are significantly different in terms of fisheries. I believe this is extremely evident by comparing the NJ regulations to those of Delaware to our immediate South and New York to our immediate North. While Delaware, whose waters are very much like that of South Jersey to the extent of having special regulations in DE Bay which are NJ waters, has a regulation of 16.5" with a 4-fish limit, but open year-round. On the other hand, New York has a 19" requirement with a 4-fish limit and is open only between May 4th and September 30th. This seems to clearly illustrate a significant change in the fishery which occurs in the 130 miles of NJ coastline.*

*While I may not have your experience or education, I remain a firm believer in never highlighting a problem without offering a potential solution, so if I may be so bold as to make a suggestion, I would ask that the MAFMC please consider altering NJ regulations in one of two methods. First, I'd ask that simply consider dividing the state into two areas which would allow for more geocentric management which is specific to the regional biomass which seems to vary dramatically between the northern and southern parts of the state. Perhaps, given its already exempted status, Island Beach State Park could serve as the dividing line between these two regions. Should regionalization not prove possible, I would then ask that you please consider changing future regulations to something which would not have the negative impact on the biomass which current regulations do. My first instinct is to propose something along the lines of a 3-fish limit with 2 fish 16-18" and one fish which is permitted to be over 18" as a 'trophy fish' of sorts. I believe this approach will have a positive impact in two ways. First, it will lessen the culling which is occurring as part of the by-catch mortality of anglers releasing 16-18" fluke while pursuing 18"+ fish. Secondly, it should lessen the pressure on the larger prime-breeding fluke which are in the 18"+ class.*

*I appreciate the time you have taken to read this email, and I do appreciate the work that the MAFMC does. I believe that we share the same goals despite envisioning different ways of achieving them, and I hope that some of these suggestions could be taken into consideration as I sternly fear that our current summer flounder regulations will have a significant negative impact on this fishery if they remain unchanged; further, I believe that any size increase in the current regulations would only expound the current issues rather than alleviating them.*

*Thank you very much for your time.*

Ed Fiorentino



# Summer Flounder Fishery Information Document

June 2018

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This document provides a brief overview of the biology, stock condition, management system, and fishery performance for summer flounder with an emphasis on 2017, 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.<sup>1</sup>

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

## 2. Status of the Stock

The most recent benchmark summer flounder stock assessment was completed and reviewed during the 57<sup>th</sup> Stock Assessment Workshop and Stock Assessment Review Committee (SAW/SARC 57).<sup>3</sup> 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>.

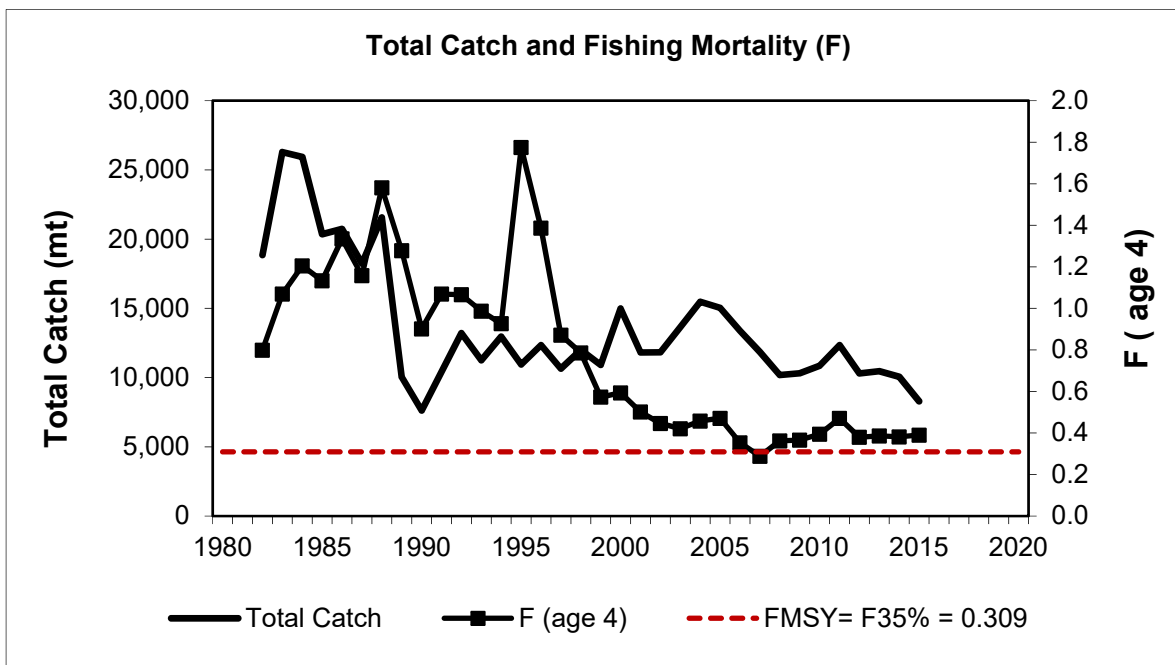
The last stock assessment update was completed by the NEFSC in June 2016, and incorporated data through 2015 into the population model used for the previous benchmark assessment. The 2016 assessment update indicated that the summer flounder stock was not overfished, but that overfishing was occurring in 2015, relative to the biological reference points established through the SAW/SARC 57 assessment. The model-estimated spawning stock biomass (SSB) was estimated to

be 79.90 million lb (36,240 mt) in 2015, 58% of the spawning stock biomass at maximum sustainable yield,  $SSB_{MSY} = 137.56$  million lb (62,394 mt). The fishing mortality rate (F) in 2015 was 0.390, 26% above the fishing mortality threshold reference point  $F_{MSYPROXY} = F_{35\%} = 0.309$  (Figure 1).<sup>4</sup>

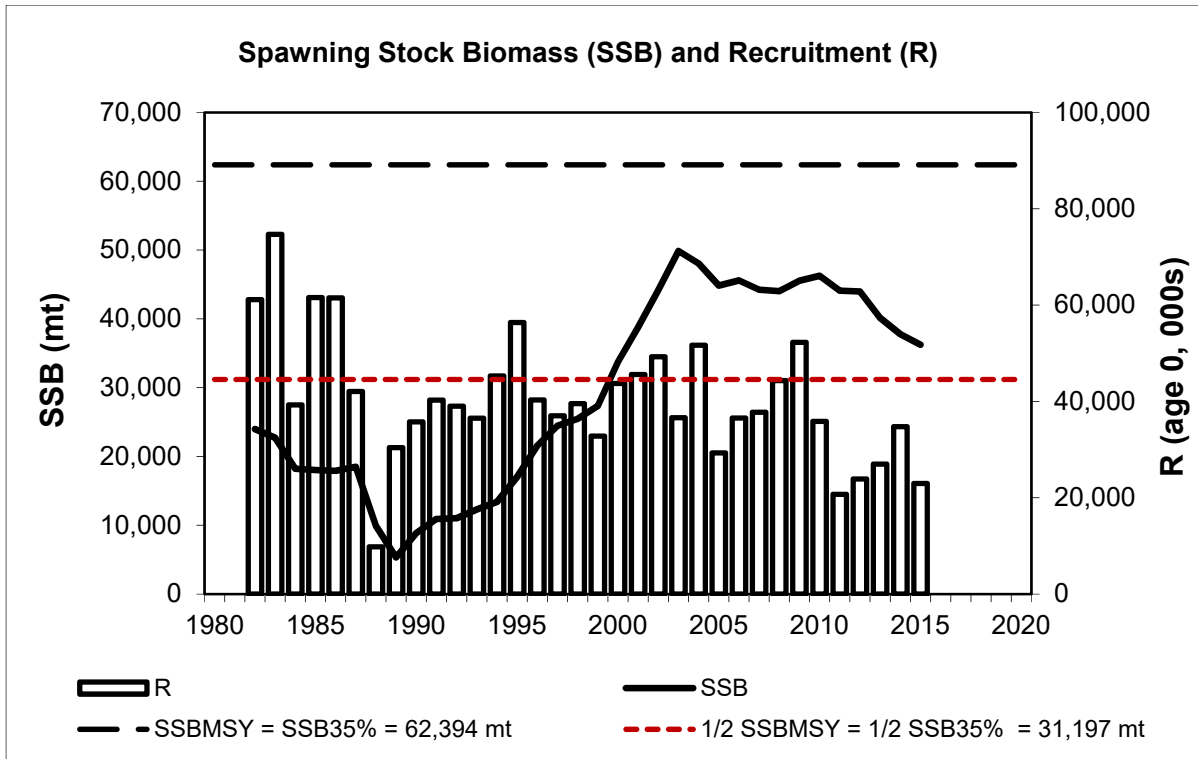
The 2016 assessment update indicated that while catch in recent years has not been substantially over the ABCs, the projected fishing mortality rates have been exceeded and projected spawning stock biomass has not been achieved. The assessment update shows a moderate internal model retrospective pattern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

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

A new data update, including recent estimates of commercial and recreational fishery catch and fishery independent indices, will be provided by the NEFSC in July 2018.



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



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

### 3. Management System and Overall Fishery Performance

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission or ASMFC) work cooperatively to develop fishery regulations for summer flounder off the east coast of the United States. The Council and Commission work in conjunction with the National Marine Fisheries Service (NMFS), which serves as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and federal waters (3-200 miles offshore, also known as the Exclusive Economic Zone, or EEZ).

The joint Fishery Management Plan (FMP) for summer flounder became effective in 1988, and established the management unit for summer flounder as U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border. The FMP also established measures to ensure effective management of summer flounder fisheries, which currently include catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP.

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



to the recreational fishery as a recreational harvest limit. Management also uses minimum fish sizes, gear regulations, permit requirements, and other provisions as prescribed by the FMP. Summer flounder was under a stock rebuilding strategy beginning in 2000 until it was declared rebuilt in 2011, based on an assessment update with data through 2010. Although the most recent (2016) assessment update included a revised biomass time series indicating that estimated biomass never actually reached the target biomass, current biomass estimates are still above the minimum stock size threshold that would trigger a new rebuilding plan. The Summer Flounder FMP, including subsequent Amendments and Frameworks, are available on the Council website at: <http://www.mafmc.org/fisheries/fmp/sf-s-bsb>.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for summer flounder, which are then approved by the Council and Commission and submitted to NMFS for final approval and implementation. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs), based on the landings allocation prescribed in the FMP and the recent distribution of discards between the commercial and recreational fisheries. The Council first implemented recreational and commercial ACLs, with a system of overage accountability, in 2012. Both the ABC and the ACLs are catch limits (i.e., include both projected landings and discards), while the commercial quota and the recreational harvest limit are landing limits. Table 1 shows summer flounder catch and landings limits from 2007 through 2018, as well as commercial and recreational landings through 2017.

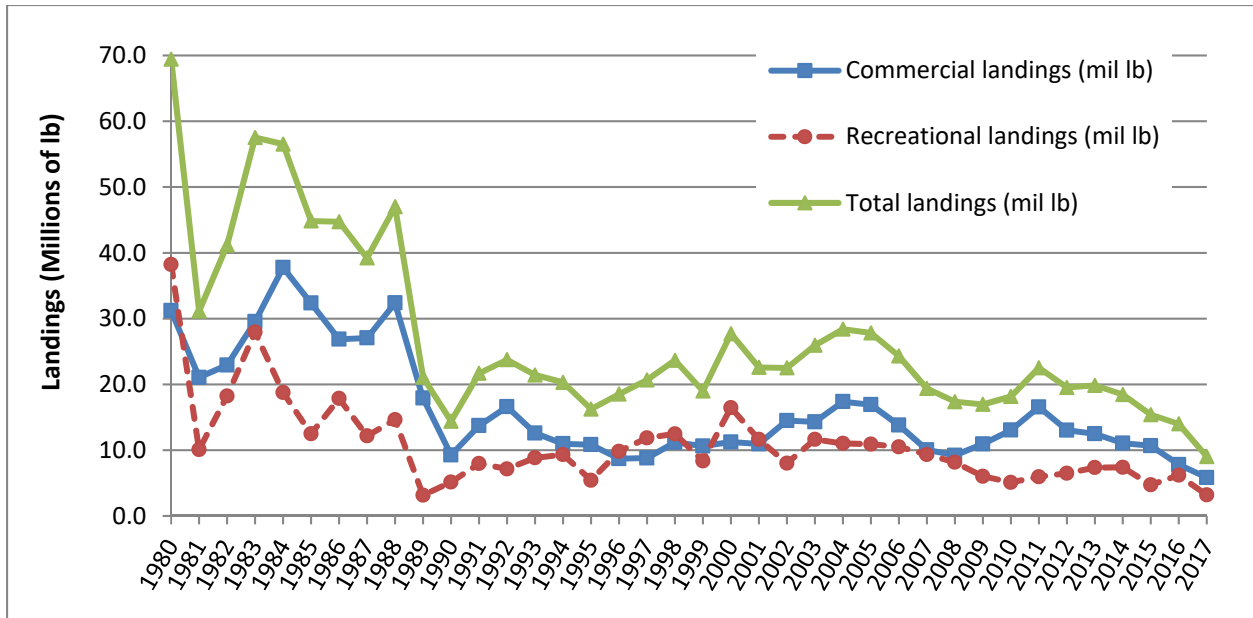
Total (commercial and recreational combined) summer flounder landings generally declined throughout the early 1980s, dropping to a time series low of 14.39 million lb in 1990, and in 2017 were about 9.02 million lb total (Figure 3).<sup>5,6</sup>

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

<b>Management measures</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
ABC (mil. lb) <sup>a</sup>	--	--	21.50	25.5	33.95	25.58	22.34	21.94	22.57	16.26	11.30	13.23
Commercial ACL (mil. lb) <sup>a</sup>	--	--	--	--	--	14.00	12.11	12.87	13.34	9.43	6.57	7.70
Commercial quota (mil. lb) <sup>b</sup>	9.79	9.32	10.74	12.79	17.38	12.73	11.44	10.51	11.07	8.12	5.66	6.63
Commercial landings (mil. lb.)	10.04	9.21	10.94	13.04	16.56	13.03	12.49	11.07	10.68	7.81	5.83	--
% of commercial quota landed	103%	99%	102%	102%	95%	102%	109%	105%	96%	96%	103%	--
Recreational ACL (mil. lb)	--	--	--	--	--	11.58	10.23	9.07	9.44	6.84	4.72	5.53
Recreational harvest limit (mil. lb) <sup>b</sup>	6.68	6.21	7.16	8.59	11.58	8.49	7.63	7.01	7.38	5.42	3.77	4.42
Recreational landings (mil. lb)	9.34	8.15	6.03	5.11	5.96	6.49	7.36	7.39	4.72	6.18	3.19	--
% of recreational harvest limit landed	140%	131%	84%	59%	51%	76%	97%	105%	64%	114%	85%	--

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

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



**Figure 3:** Commercial and recreational summer flounder landings in millions of pounds, Maine-North Carolina, 1980-2017.<sup>5,6</sup>

#### 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 5.83 million pounds in 2017 (corresponding to 103% of the commercial quota) according to preliminary data (Figure 3).<sup>5</sup>

In federal waters, a moratorium permit is required to fish commercially for summer flounder. Permit data indicate that 766 commercial moratorium permits for summer flounder were issued in 2017.<sup>7</sup>

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. The Council and ASFMC are currently considering modifications to the commercial allocations through a Summer Flounder Commercial Issues Amendment (see: <http://www.mafmc.org/actions/summer-flounder-amendment>). If adopted, any changes to allocations would not be implemented until at least January 1, 2020.

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

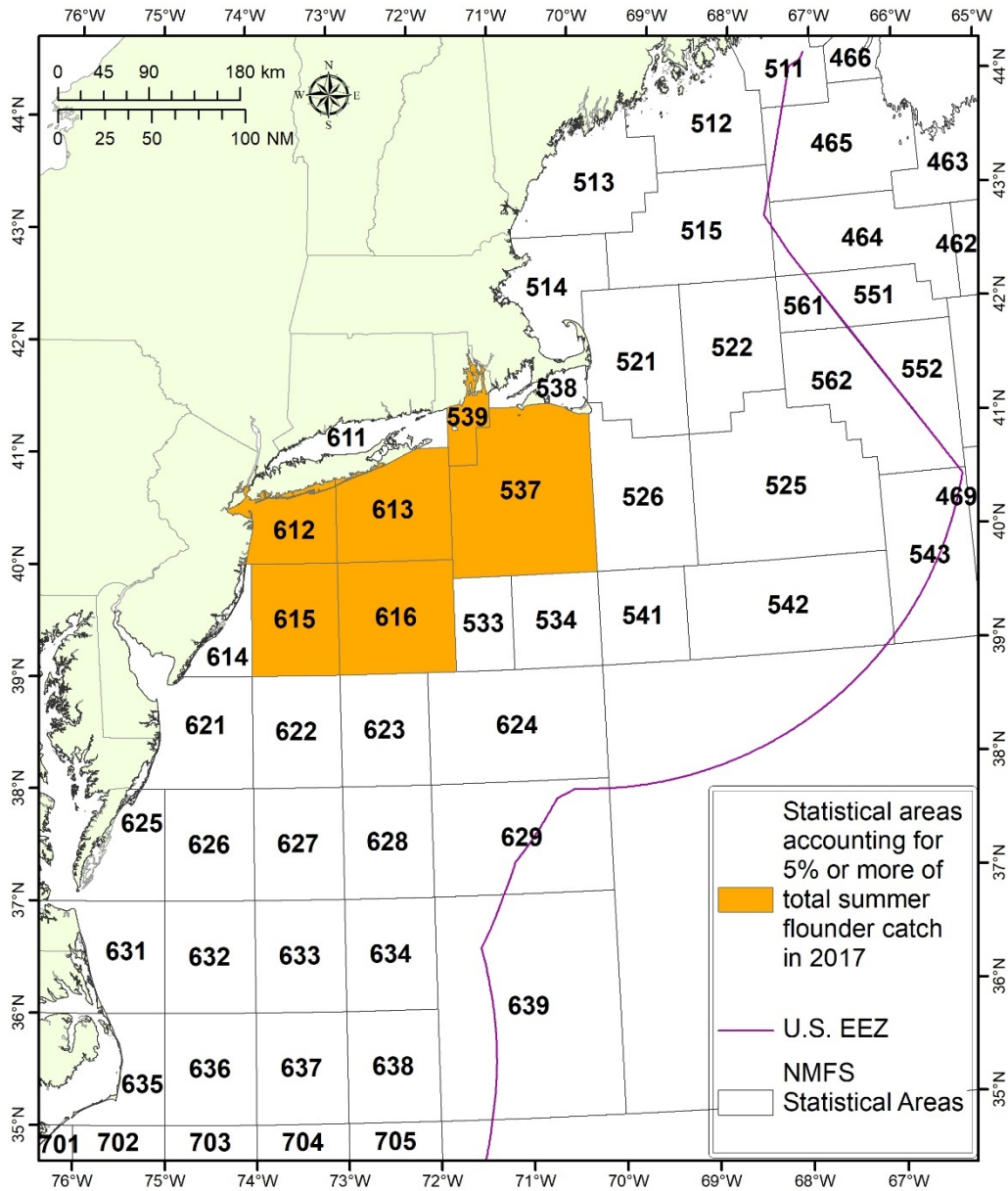
State	Allocation (%)
ME	0.04756
NH	0.00046
MA	6.82046
RI	15.68298
CT	2.25708
NY	7.64699
NJ	16.72499
DE	0.01779
MD	2.03910
VA	21.31676
NC	27.44584
Total	100

Vessel Trip Report (VTR) data for 2017 indicate that the bulk of the summer flounder landings were taken by bottom otter trawls (96 percent). All other gear types each accounted for less than 1 percent of landings.<sup>8</sup> 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 2017 (Table 3; Figure 4). Statistical areas 616 and 537 were responsible for the highest percentage of the catch (24% and 23% respectively; Table 3). While statistical area 539 accounted for only 6% of 2016 summer flounder catch, this area had the highest number of trips that caught summer flounder (2,478 trips).<sup>8</sup> Note that discards on VTRs are self-reported.

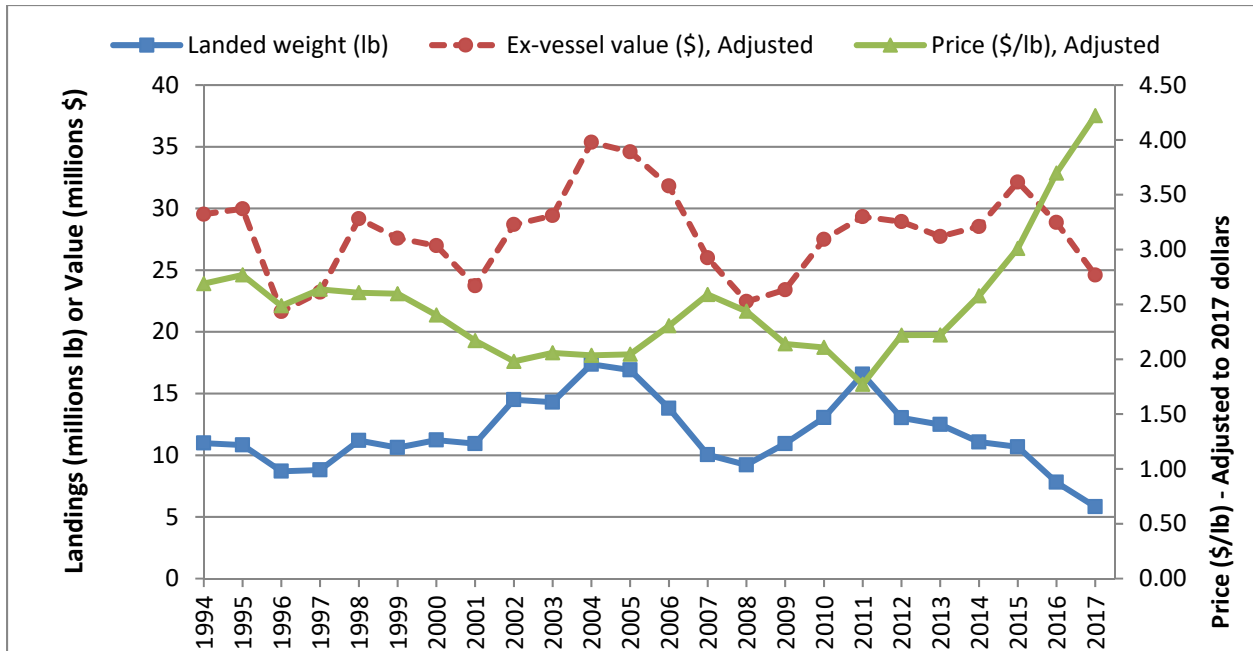
**Table 3:** Statistical areas that accounted for at least 5 percent of the total summer flounder catch in 2017, with associated number of trips.<sup>8</sup>

Statistical Area	Percent of 2017 Commercial Summer Flounder Catch	Number of Trips
616	24%	823
537	23%	1,469
613	13%	1,617
612	7%	1,205
615	7%	425
539	6%	2,478



**Figure 4:** NMFS Statistical Areas, highlighting those that each accounted for more than 5% of the commercial summer flounder catch in 2017.<sup>8</sup>

For the years 1994 through 2017, NMFS dealer data indicate that summer flounder total ex-vessel revenue from Maine to North Carolina ranged from a low of \$21.64 million in 1996 to a high of \$35.36 million in 2004 (values adjusted to 2017 dollars to account for inflation). The mean price per pound for summer flounder ranged from a low of \$1.77 in 2011 (in 2017 dollars) to a high of \$4.22 in 2017. In 2017, 5.83 million pounds of summer flounder were landed generating \$24.60 million in total ex-vessel revenue (an average of \$4.22 per pound; Figure 5).<sup>5</sup>



**Figure 5:** Landings, ex-vessel value, and price per pound for summer flounder, Maine through North Carolina, 1994-2017. Ex-vessel value and price are adjusted to real 2017 dollars.<sup>5</sup>

At least 100,000 lb of summer flounder were landed by commercial fishermen at each of 13 ports in seven states in 2017. These 13 ports accounted for approximately 82% of all 2017 commercial summer flounder landings. Beaufort, NC and Point Judith, RI were the leading ports in 2017 in terms of pounds of summer flounder landed, while Point Judith, RI was the leading port in terms of the number of vessels landing summer flounder (Table 4).<sup>5</sup> Detailed community profiles developed by the Northeast Fisheries Science Center’s Social Science Branch can be found at [www.mafmc.org/communities/](http://www.mafmc.org/communities/).

**Table 4:** Ports reporting at least 100,000 lb of summer flounder in 2017, and the corresponding percentage of total 2016 commercial summer flounder landings and number of vessels.<sup>5</sup>

Port	Summer Flounder Landings (lb)	% of 2017 commercial summer flounder landings	Number of vessels
BEAUFORT	902,639	15	69
POINT JUDITH	770,412	13	140
HAMPTON	598,478	10	57
PT. PLEASANT	480,258	8	58
NEWPORT NEWS	428,416	7	43
MONTAUK	289,375	5	77
WANCHESE	274,174	5	25
BELFORD	241,572	4	20
NEW BEDFORD	211,907	4	69
CHINCOTEAGUE	192,609	3	25
CAPE MAY	132,848	2	49
ENGELHARD	131,580	2	9
ORIENTAL	105,698	2	10

Over 194 federally permitted dealers from Maine through North Carolina bought summer flounder in 2017. More dealers bought summer flounder in New York than in any other state (Table 5). All dealers combined bought approximately \$24.60 million worth of summer flounder in 2017.<sup>5</sup>

**Table 5:** Dealers reporting buying summer flounder, by state in 2017.<sup>5</sup> C=Confidential.

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number Of Dealers	27	29	16	45	25	C	6	16	30

## 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 ASMFC 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 ASMFC’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 2018 regional conservation equivalency measures are given in Table 6.

**Table 6:** Summer flounder recreational fishing measures in 2018, by state, under regional conservation equivalency. 2018 regions include: 1) Massachusetts, 2) Rhode Island, 3) Connecticut and New York, 4) New Jersey, 5) Delaware, Maryland, The Potomac River Fisheries Commission, and Virginia, and 6) North Carolina.

State	Minimum Size (inches)	Possession Limit	Open Season
Massachusetts	17	5 fish	May 23-October 9
Rhode Island	19	6 fish	May 1-December 31
Connecticut	19	4 fish	May 4- September 30
CT Shore Program (45 designed shore sites)	17		
New York	19	4 fish	May 4- September 30
New Jersey	18	3 fish	May 25-September 22
NJ Shore program site (Island Beach State Park) <sup>a</sup>	16	2 fish	
New Jersey/Delaware Bay COLREGS	17	3 fish	
Delaware	16.5	4 fish	January 1- December 31
Maryland	16.5	4 fish	January 1- December 31
PRFC	16.5	4 fish	January 1- December 31
Virginia	16.5	4 fish	January 1- December 31
North Carolina	15	4 fish	January 1- December 31

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 (27.97 million pounds). Catch reached a low in 1989 with 2.69 million fish caught, while landings reached a low in 2017 with 1.03 million fish landed (3.19 million pounds; Table 7).<sup>6</sup>

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2017, there were 820 party and charter vessels that held summer flounder federal for-hire permits.<sup>7</sup> 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, 1981-2017.<sup>6</sup>

<b>Year</b>	<b>Catch (millions of fish)</b>	<b>Landings (millions of fish)</b>	<b>Landings (millions of pounds)</b>
1981	13.58	9.57	10.08
1982	23.56	15.47	18.23
1983	32.06	21.00	27.97
1984	29.78	17.48	18.76
1985	13.53	11.07	12.49
1986	25.29	11.62	17.86
1987	21.02	7.86	12.17
1988	17.17	9.96	14.62
1989	2.68	1.72	3.16
1990	9.10	3.79	5.13
1991	16.07	6.07	7.96
1992	11.91	5.00	7.15
1993	22.90	6.49	8.83
1994	17.73	6.70	9.33
1995	16.31	3.33	5.42
1996	18.99	7.00	9.82
1997	20.03	7.17	11.87
1998	22.09	6.98	12.48
1999	21.38	4.11	8.37
2000	25.38	7.80	16.47
2001	28.19	5.29	11.64
2002	16.67	3.26	8.01
2003	20.53	4.56	11.64
2004	20.34	4.32	11.02
2005	25.81	4.03	10.92
2006	21.40	3.95	10.50
2007	20.73	3.11	9.34
2008	22.90	2.35	8.15
2009	24.09	1.81	6.03
2010	23.72	1.50	5.11
2011	21.56	1.84	5.96
2012	16.53	2.27	6.49
2013	16.11	2.52	7.36
2014	18.97	2.46	7.39
2015	12.15	1.62	4.72
2016	14.17	2.03	6.18
2017	8.44	1.03	3.19

On average, an estimated 87 percent of the landings (in numbers of fish) occurred in state waters over the past ten years, and about 81 percent of landings came from state waters in 2017 (Table 8). The majority of summer flounder were landed in New York and New Jersey in 2017 (Table 9).<sup>6</sup>

**Table 8:** Estimated percentage of summer flounder recreational landings in state vs. federal waters, Maine through North Carolina, 2008-2017.<sup>6</sup>

Year	State <= 3 mi	EEZ > 3 mi
2008	96.49%	3.51%
2009	90.93%	9.07%
2010	92.40%	7.60%
2011	95.31%	4.69%
2012	87.76%	12.24%
2013	76.97%	23.03%
2014	77.08%	22.92%
2015	80.95%	19.05%
2016	80.91%	19.09%
2017	79.57%	20.43%
<b>Avg. 2008 - 2017</b>	<b>86.8 %</b>	<b>14.2%</b>
<b>Avg. 2015 - 2017</b>	<b>80.5%</b>	<b>19.5%</b>

**Table 9:** State contribution (as a percentage) to total recreational landings of summer flounder (in numbers of fish), from Maine through North Carolina, 2015-2017.<sup>6</sup>

State	2015	2016	2017
Maine	0.0%	0.0%	
New Hampshire	0.0%	0.0%	0.0%
Massachusetts	4.9%	2.7%	2.6%
Rhode Island	10.1%	4.3%	6.1%
Connecticut	5.7%	10.7%	8.5%
New York	30.3%	35.1%	21.5%
New Jersey	30.7%	37.2%	43.9%
Delaware	3.2%	4.4%	3.3%
Maryland	2.7%	1.1%	2.5%
Virginia	9.8%	3.5%	9.0%
North Carolina	2.5%	0.9%	2.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

MRIP data indicate that about 82% of recreational summer flounder landings in 2017 were caught by anglers fishing on private or rental boats, about 13% from anglers aboard party or charter boats, and 5% from shore (Table 10).<sup>6</sup>

**Table 10:** The number of summer flounder landed by recreational fishing mode, Maine through North Carolina, 1981-2017.<sup>6</sup>

Year	Shore (numbers of fish)	Party/Charter (numbers of fish)	Private/Rental (numbers of fish)
1981	3,145,683	1,362,252	5,058,639
1982	1,120,521	5,936,006	8,416,173
1983	3,963,680	3,574,229	13,458,398
1984	1,355,595	2,495,733	13,623,843
1985	786,185	1,152,247	9,127,759
1986	1,237,033	1,608,907	8,774,921
1987	406,095	1,150,095	6,308,572
1988	945,864	1,134,353	7,879,442
1989	180,268	141,320	1,395,177
1990	261,898	413,240	3,118,447
1991	565,404	597,610	4,904,637
1992	275,474	375,245	4,351,387
1993	342,225	1,013,464	5,138,352
1994	447,184	836,362	5,419,145
1995	241,906	267,348	2,816,460
1996	206,927	659,876	6,130,182
1997	255,066	930,633	5,981,121
1998	316,314	360,777	6,302,004
1999	213,447	300,807	3,592,741
2000	569,612	648,755	6,582,707
2001	226,996	329,705	4,736,910
2002	154,958	261,554	2,845,647
2003	203,717	389,142	3,965,811
2004	200,368	463,776	3,652,354
2005	104,295	498,614	3,424,557
2006	154,414	315,935	3,479,934
2007	98,418	499,160	2,510,000
2008	79,339	171,951	2,098,583
2009	62,691	176,997	1,566,490
2010	59,812	160,109	1,281,546
2011	34,849	137,787	1,667,240
2012	106,344	169,473	1,996,404
2013	132,804	271,060	2,117,502
2014	79,918	439,550	1,938,535
2015	47,680	272,227	1,301,573
2016	62,383	144,423	1,820,964
2017	49,269	138,277	840,937
<b>% of Total, 1981-2017</b>	9%	14%	78%
<b>% of Total, 2013-2017</b>	4%	13%	83%

## 6. References

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- <sup>5</sup> Unpublished NMFS dealer data as of May 21, 2018.
- <sup>6</sup> Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed April 23, 2018. Available at: <http://www.st.nmfs.noaa.gov/recreational-fisheries/index>.
- <sup>7</sup> Unpublished NMFS permit data as of May 29, 2018.
- <sup>8</sup> Unpublished NMFS Vessel Trip Report (VTR) data as of May 29, 2018.