

**Summer Flounder, Scup, Black Sea Bass
Commercial/Recreational Allocation Amendment**

FMAT Meeting Summary

**May 21, 2020, 9AM-12PM, and
May 26, 2020, 1PM-4PM**

Note: Alternatives that the Council and Board removed from this amendment at their June Meeting were removed from this document. The full FMAT summary can be found at <https://www.mafmc.org/briefing/june-2020>.

Attendees

FMAT members: Greg Ardini, Julia Beaty, Dustin Colson-Leaning, Karson Coutre, Kiley Dancy, Marianne Ferguson, Emily Keiley, Gary Shepherd (day 1 only), Caitlin Starks, Mark Terceiro (day 1 only)

Others: Tony Wood, Bonnie Brady, Steve Cannizzo, Joe Cimino (day 1 only), Greg DiDomenico, Dewey Hemilright, Meghan Lapp (day 1 only), Adam Nowalsky, Mike Waine, Kate Wilke (day 2 only)

Meeting objective

The objective of this meeting was for the Fishery Management Action Team (FMAT) to further refine draft alternatives for the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment.

Approaches that the FMAT recommended remain in the amendment for further development:

Category	Approach
1. No action/status quo	1. No action/status quo
2. Revised percentages based on different data or time series	2.1 Existing base years with revised data
	2.2 Revised base years based on recent landings/catch
3. Allocations attempting to maintain roughly status quo harvest by sector from the most recent year prior to last assessment update	
4. Recreational sector separation	4.1 Separate allocations to for-hire vs. private sectors
5. Dynamic allocation approaches and options for future revisions	5.1 Allocation changes through frameworks/addenda
	5.2 Trigger approach
6. Allocation transfers between sectors	
7. Allocation percentages based on an average of multiple approaches.*	

*This alternative is illustrated in Appendix D

Meeting summary

For each category of alternatives below, background information discussed by the FMAT is provided along with FMAT comments and recommendations.

1. No action/status quo alternative

The no action/status quo alternative would keep the existing allocations as specified in Table 1.

Table 1: Current allocations and base years for summer flounder, scup, and black sea bass.

Species & Basis	Allocation	
Summer flounder: 1980-1989 (landings-based allocation) ^a	Com	60%
	Rec	40%
Scup: 1988-1992 (catch-based allocation) ^b	Com	78%
	Rec	22%
Black sea bass: 1983-1992 (landings-based allocation) ^c	Com	49%
	Rec	51%

^aThe source of commercial landings used in Amendment 2 was "NMFS General Canvass Data," and recreational data used was "unpublished NMFS Marine Recreational Fisheries Statistics Survey (MRFSS) Data." MRFSS was a precursor to MRIP.
^bData sources used in Amendment 8 include NMFS commercial fish dealer weighout data, MRFSS, and Northeast Fisheries Science Center data.
^cThe data sources identified in Amendment 9 include MRFSS and NMFS general canvass data.

Due to revised MRIP estimates that are much higher than those used to calculate the current allocations, status quo allocations are expected to pose challenges for constraining the recreational fisheries to their recreational harvest limits (RHLs). Catch limits from recent assessments did not increase to the degree necessary to account for increased recreational catch for all species.

For summer flounder, recreational measures were able to stay mostly status quo between 2018-2020, as the 2019-2020 revised RHLs have been close to projected recreational harvest in the new MRIP currency. For scup and black sea bass, the recreational fisheries faced potential large harvest reductions when recreational measures were considered in December 2019. Due to the ongoing development of this amendment to address allocation-related impacts of the revised MRIP data, the Council and Board were able to adopt status quo recreational measures for 2020. For 2021 and beyond, this is not likely to be possible based on the current constraints of the FMP.

For example, final 2019 MRIP scup harvest was estimated at 14.12 million pounds, or 54% higher than the 2020 RHL of 6.51 million pounds. In 2021, the scup RHL decreases to 5.34 million pounds. For black sea bass, final 2019 MRIP harvest was estimated at 8.61 million pounds, or 48% higher than the 2020-2021 RHL of 5.82 million pounds. Under the current allocations, these fisheries could face large restrictions in recreational management measures in future fishing years.

FMAT Comments and Recommendations:

One FMAT member expressed a number of concerns with continued use of 1980s-1990s data in these allocations given recent data revisions and trends in the fisheries over time. The large differences between the old MRIP numbers and the recalibrated estimates are more pronounced in recent years, which results in different ratios of commercial and recreational catch. While there is

a lack of acceptance of the MRIP data among some stakeholders, it is peer reviewed and accepted, and has been used in the assessments. Unless there is a decision to decouple regulations and specifications from the assessment and catch data, there needs to be consistency across the management system in the data used. As previously stated, the way the current allocations are set up, the recreational fisheries are expected to exceed their catch limits.

2. Modified percentage allocations based on different data or time series

The following approaches would revise the percentage allocations based on modified base years or different data sets. Both catch-based and landings-based allocation options are included within these categories and could be developed into sub-alternatives where appropriate (see additional discussion of the implications of catch vs. landings-based allocations in **APPENDIX A**).

2.1 Update existing base years with the most recent recreational and commercial data.

This method would maintain the existing base years and re-calculate the percentage allocations using the best available data for each species, including the revised MRIP data as well as any changes in the commercial data that have occurred since the original allocations were set. Data considerations for the base years for each species are summarized below. In some cases, data may need to be pulled from multiple sources given the varying time series available for different data streams, as described below and in Table 2.

Summer Flounder (1980-1989 base years):

- Catch-based allocations cannot be calculated for summer flounder for the existing base years without additional work to estimate dead discards for the early base years. While the current stock assessment time series of catch components goes back to 1982, dead discard estimates are not provided until 1989. Observer data cannot be used to develop summer flounder discard estimates for years prior to 1989. Discard were assumed to be very low relative to landings during 1982-1988 (due to lack of minimum sizes and gear restrictions in the EEZ) but to have increased since 1989 with the implementation of fishery regulations in the EEZ.
- MRIP data are only available starting in 1981, so the full 1980-1989 base years cannot be re-calculated for the recreational fishery in catch or harvest.
- Commercial landings data for 1980-1981 are not used in the current stock assessment, but were provided by NEFSC staff and match the estimates used in Amendment 2.

Scup (1988-1992 base years):

- The stock assessment time series covers 1984-2018, and data provided in the 2019 operational assessment provides catch component time series starting in 1981. The base years for scup can be updated for both catch and landings.
- Because scup uses a catch-based allocation, it is important to consider revised dead discard data. Dead discard estimates have been revised through various stock assessments, including recently through the 2015 stock assessment¹ to address the Standardized Bycatch

¹ Northeast Fisheries Science Center. 2015. 60th Northeast Regional Stock Assessment (60th SAW) assessment report. Northeast Fisheries Science Center Reference Document 15-08. Available at: <http://www.nefsc.noaa.gov/publications/>

Reporting Methodology (SBRM) requirements.² On average over the base years, current scup total commercial catch estimates are 8% lower than the estimates used in Amendment 8.

Black sea bass (1983-1992 base years):

- The stock assessment time series covers 1989-2018. The time series starts in 1989 for several reasons:
 - The observer program began in 1989, so empirical estimates of discards began then. Discards prior to 1989 would have had to be hind-cast based on some relation to landings or survey data. The stock assessment workgroup felt this not appropriate for black sea bass.
 - Biological data from commercial landings is limited before 1989.
 - There were problems presented by extremely high recreational landings in 1982 and 1986 that were considered outliers.
- Revised MRIP data are available from 1981, and commercial landings data prior to 1989 are available through ACCSP. Neither of these time series includes discard estimates in weight.

The allocation outcomes of updating existing base years with recent data are described in **Table 2**.

Given recent recreational harvest levels under the revised MRIP estimates, these changes may not be enough to prevent future recreational sector restrictions in the near term for scup and black sea bass. As described above, harvest estimates from the revised MRIP data are substantially above 2020-2021 RHLs for these species. Summer flounder recreational measures were able to stay status quo in 2019 and 2020, but future adjustments will be evaluated based on recent recreational data so it is not possible to predict whether near-term restrictions will be needed for summer flounder.

² The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment to the fishery management plans of the Northeast region was implemented in February 2008 to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act to include standardized bycatch reporting methodology in all FMPs of the New England Fishery Management Council and Mid- Atlantic Fishery Management Council.

Table 2: Allocation outcomes based on using existing base years updated with recent data, with comparison to current allocations.

		Catch-based		Landings-based	
		Current	Revised	Current	Revised
Summer flounder: 1981-1989^a	Com	N/A	^b	60%	55%
	Rec	N/A	^b	40%	45%
Scup: 1988-1992	Com	78%	65%	N/A	57%
	Rec	22%	35%	N/A	43%
Black sea bass: 1983-1992	Com	N/A	^b	49%	45%
	Rec	N/A	^b	51%	55%

^a Summer flounder base years are 1980-1989; however, MRIP data is only available back to 1981, so these calculations are based on 1981-1989.

^b Estimates of discards in weight are not available over the full range of base years, thus, catch-based allocations cannot be calculated.

Data sources: Summer flounder data are from the most recent benchmark stock assessment (2018). Scup data are from the most recent stock assessment update (2019). For black sea bass, the recreational data are from MRIP and the commercial data are from the ACCSP as the black sea bass assessment does not include all of the allocation base years.

FMAT Comments and Recommendations:

The FMAT recommends further development of alternatives using this approach.

One FMAT member commented that while discard estimates for summer flounder are not currently available prior to 1989 when the observer program started, it would be possible to estimate discards based on nearby years. However; it is assumed that for summer flounder that commercial discards were negligible before 1989, so they are assumed to be zero. A catch-based allocation for summer flounder could be developed if that assumption is made.

The FMAT discussed data differences for black sea bass between ACCSP and NEFSC data and determined that the two data sets should have identical landings values.

Expected Future Analysis:

- Further explore how the fisheries and the data quality (including reporting and monitoring requirements) have changed since the 1980s and 1990s and the implications for maintaining the existing base years in allocations.
- For the allocation base years for each species, identify and describe all differences between the commercial data used to set the current allocations and the current commercial data sets.

2.2 Revised base years, based on recent catch or landings averages

This concept uses more recent base years, for example, the last 5, 10, or 15 years of catch or landings as shown in **Table 3**. These examples were all suggested through scoping.

Table 3: Example allocations based on revised base years of catch or landings from the last 5 years, 10 years, and 15 years, with comparison to current allocations.

		Catch-based				Landings-based			
		Current	5 Years: 2014-2018	10 years: 2009-2018	15 years: 2004-2018	Current	5 Years: 2014-2018	10 years: 2009-2018	15 years: 2004-2018
Summer flounder	Com	N/A	40%	43%	44%	60%	41%	45%	45%
	Rec	N/A	60%	57%	56%	40%	59%	55%	55%
Scup	Com	78%	62%	61%	60%	N/A	57%	57%	56%
	Rec	22%	38%	39%	40%	N/A	43%	43%	44%
Black sea bass	Com	N/A	25%	24%	28%	49%	22%	22%	27%
	Rec	N/A	75%	76%	72%	51%	78%	78%	73%

Data from most recent assessment updates with data through 2018 (final 2019 data is not yet available).

The FMAT previously noted that these changes would represent fairly substantial shifts in allocation for all three species.

Using recent years to define allocations is confounded by the fact that these are all years when the fisheries were theoretically constrained by the current allocations. However, the FMAT previously noted that the commercial fisheries have been closer to their allocation in each of these years than the recreational fishery. Species specific recreational performance and management in recent years is discussed below. Note that **all recreational fishery performance evaluations described here use the prior MRIP estimates** before the 2018 revisions, given that revised MRIP estimates cannot be compared to limits set using the past data.

Summer Flounder

Since 2004, summer flounder commercial landings have been relatively close to the commercial quota in most years with minor overages/underages. Recreational harvest has been more variable relative to the RHLs, with years of more substantial overages/underages. Recreational overages occurred from 2006-2008, and in 2014 and 2016. On average, recreational underages since 2004 have been greater in magnitude than overages (see APPENDIX B).

Scup

Both the recreational and commercial scup fisheries have under-harvested since catch limits were substantially increased in 2011. Prior to 2011, there were some years with RHL overages, but the commercial fishery was generally at or under their quota (see APPENDIX B). For scup, it should be considered whether using pre-2011 years makes sense given that quotas from that time do not reflect current biomass and catch limit conditions. Prior to 2011, the fisheries were constrained, whereas they have not been truly constrained in recent years. On the other hand, looking at performance from the last time the fisheries were constrained could be informative.

Black Sea Bass

A constant catch approach was used to set commercial black sea bass quotas from 2010-2015 due to lack of an accepted stock assessment. Commercial landings have generally been well constrained to the quotas since they were implemented, with very minor overages occurring in a few years (see APPENDIX B). In recent years, recreational harvest and catch have not been constrained to recreational limits, despite restrictions in recreational management measures; recreational harvest has exceeded the RHL in every year since 2007. It seems that high availability has driven recreational catch in recent years more so than the recreational measures.

For all three species, considering these significant differences in the performance of the fisheries relative to their catch limits, it may not be considered fair and equitable to use landings in recent years as the basis for future allocations, because the ability of the commercial fishery to constrain landings to their limits would essentially prevent it from receiving an increased share of the catch, while the recreational fishery would receive a larger share as a result of its high overages. However, it may be worth evaluating the overall benefit to the nation that would result from changing the allocations to the commercial and recreational fisheries. Additional evaluation of trends in recreational effort and trips targeting each species could be explored to see how it has changed and how it should be factored into allocation changes.

FMAT Comments and Recommendations:

The FMAT supports further consideration of this approach. The same comments made in section 1 above (no action/status quo) regarding the use of 1980s-1990s data also apply here.

When considering the use of more recent base years, the FMAT noted several tradeoffs. Using more recent data likely reflects the current needs of the fisheries better, and is responsive to changes that have occurred in the fisheries and stocks. However, the FMAT has concerns about reallocating based on time periods when the recreational fishery was effectively less constrained to their limits than the commercial fishery. These issues need to be carefully balanced. A major intent of this action is to address recreational data changes that update our understanding of the magnitude of recreational catch, but we should also be careful to avoid rewarding large past overages. Species-specific considerations may come into play when considering using recent years as the basis for allocations.

The FMAT noted that in addition to landings limit performance, it will be important to further evaluate catch limit performance and discard trends in each sector. In addition, the FMAT could further explore ways to use recent base years that take into account metrics other than just catch, for example, combining multiple data sources or scaling allocation changes to changes in other metrics such as effort. Any of these approaches would need to have a solid rationale on which to base a percentage allocation. However, the FMAT also pointed out that there is not necessarily a clear, objective scientific basis for a single best way to approach these allocations, and that this a policy and judgement call between a number of defensible options. One way to consider narrowing the focus of the range of alternatives in this action could be to analyze the similarities in outcomes and group together alternatives with multiple elements of supporting rationale for the same outcome.

The FMAT supported continuing to analyze all of the current recent years options (5 years, 10 year, and 15 years), in part so the Council and Board can consider the similarities of the outcomes and discuss whether it makes sense to narrow or combine alternatives.

If major changes are proposed, the Council and Board could consider an incremental phased-in change, as has been done with other management issues by management bodies such as ICES.

Expected Future Analysis:

- Describe sector-specific performance of catch against the ACLs over these time frames for all three species. For commercial catch data, consideration will need to be given to whether to use GARFO discard estimates, NEFSC estimates, or both, as these estimates can vary.

3. Allocations attempting to maintain roughly status quo harvest in each sector compared to the years before the most recent stock assessments were incorporated into management

The intent behind this approach is to modify the percentage allocations to allow for roughly status quo harvest in both sectors under the 2020-2021 ABCs for all three species compared to year(s) prior to the recent catch limit revisions based on the most recent stock assessments. The details described below are an example of how this approach could work.

Rationale

The most recent assessments incorporating the revised MRIP data took place in 2018 (for summer flounder) and 2019 (for scup and black sea bass). Revised catch and landings limits were implemented in the following years. For summer flounder, constant catch and landings limits were implemented for 2019-2021 (i.e., identical catch and landings limits across the three years). For black sea bass, constant catch and landings limits were implemented for 2020-2021. For scup, variable catch and landings limits were implemented for 2020-2021.

For summer flounder, these changes resulted in a 49% increase in the commercial quota and RHL in 2019. Despite the increase in the RHL, recreational management measures could not be liberalized because the revised MRIP data showed that the recreational fishery was already harvesting close to the increased RHL. Commercial landings were able to increase as a result of this change in the landings limits.

The 2019 operational assessment for black sea bass resulted in a 59% increase in the black sea bass commercial quota and RHL for 2020. Status quo recreational measures for black sea bass were expected to result in an overage of the increased 2020 RHL; however, the Council, Board, and NMFS agreed to maintain status quo recreational management measures for 2020 to allow more time to consider how to best modify recreational management in light of the new MRIP data. It is expected that commercial landings will increase in response to the 59% increase in the quota, though they may not increase by the full 59% due to the mid-year increase in the quota and decreased demand due to COVID-19.

For scup, the 2019 operational stock assessment resulted in a decrease in the commercial quota (-7%) and RHL (-12%) in 2020 compared to 2019. Status quo recreational measures for scup in 2020 were maintained based on similar justifications described above for black sea bass as well as

the expectation that the commercial fishery would continue to under-harvest their quota due to market reasons.

Given these circumstances, it may be possible to modify the allocations for all three species such that harvest in each sector could remain similar to pre-2019 levels for summer flounder and pre-2020 levels for scup and black sea bass (i.e., the years prior to implementation of the most recent stock assessments for all three species), at least on a short-term basis under the current ABCs. This would require lower commercial quotas than those implemented in 2019 (for summer flounder) or 2020 (for scup and black sea bass). However, given that the commercial quotas for summer flounder and black sea bass increased by 49% and 59% respectively as a result of the most recent assessments, and given that the commercial scup quota has been under-harvested for over 10 years, this may warrant consideration as an approach to allow for some stability in the fisheries (compared to pre-2019/2020 levels), at least on a temporary basis. If the ABCs for any of the three species were to change notably in the future, this approach would not guarantee that harvest in each sector could remain similar to status quo as this approach would modify the allocation percentages.

Defining status quo for each species and sector

Due to unique circumstances in each fishery, the status quo harvest target under this example was not defined the same way across all species and sectors. As previously stated, recreational harvest can vary notably from year to year, even under similar management measures. For this reason, recreational status quo for all three species was defined as average recreational harvest in pounds during the two years prior to the most recent catch limit revisions (i.e., 2017-2018 for summer flounder and 2018-2019 for scup and black sea bass). Commercial scup landings are also variable and have been below the quota since 2007 for market reasons. For this reason, status quo for the commercial scup fishery was also defined as a recent two-year average of harvest (2018-2019). For summer flounder and black sea bass, commercial status quo was defined as landings in the last year prior to revisions based on the most recent assessments (i.e., 2018 for summer flounder and 2019 for black sea bass). This was done to reflect the fact that commercial summer flounder and black sea bass landings are generally held close to the quotas.

Status quo levels of discards for each species and sector were defined using the same years described above for landings. Discard estimates in weight for 2019 are not currently available for either sector; therefore, it was assumed that 2019 discards would be equal to the 2016-2018 average for all species and sectors.

Example method for calculating allocations to allow approximately status quo harvest

This example methodology used the 2020 - 2021 ABCs (or, in the case of scup, the average of the 2020 and 2021 ABCs) as a baseline. Because this approach would modify the commercial/recreational allocation percentages, expected harvest and discards in each sector could not be calculated with the same methods used for setting the 2020-2021 specifications. Under this example, the initial values for expected dead discards by sector were calculated by dividing the 2020-2021 ABCs into expected total (i.e., both sectors combined) landings and total dead discards based on the average proportion of total landings and dead discards during 2017-2019 (see note

above about 2019 discards). The expected total amount of dead discards was then divided into commercial and recreational discards based on the average contribution of each sector to total dead discards during 2017-2019. Initial expected harvest was defined as the status quo level of landings in each sector described above. These were the target commercial quotas and RHLs. As described below, these initial values for both harvest and dead discards were modified during subsequent steps of the analysis.

For summer flounder, total expected catch was 18% below the 2020-2021 ABC. This surplus allowable catch was split evenly among the two sectors. The resulting catch and landings limits, including expected dead discards in each sector, were modified to account for this surplus. For scup, total expected catch was 9% above the 2020-2021 average ABC. For black sea bass, total expected catch was 2% above the 2020-2021 ABC. For both scup and black sea bass, the catch reduction necessary to prevent an ABC overage was evenly split between the two sectors. Thus, true status quo was not be maintained for any of the three species under this example. For summer flounder, both sectors were able to slightly liberalize compared to the definition of status quo described above. For scup and black sea bass, both sectors had to be slightly restricted. The resulting catch and landings limits were then used to define the allocation percentages in Table 4. These are the allocation percentages for consideration under this approach. They may be revised in the future if the FMAT recommends changes to the methods described above.

Table 4: Example allocations aiming to allow approximately status quo landings in each sector under the 2020-2021 ABCs compared to recent years prior to catch limit revisions based on the most recent stock assessments.

Sector	Catch-based			Landings-based		
	Summer flounder	Scup	Black sea bass	Summer flounder	Scup	Black sea bass
Commercial	43%	59%	32%	43%	50%	29%
Recreational	57%	41%	68%	57%	50%	71%

During the previous FMAT meeting, one FMAT member asked how the outcome of this approach would differ from simply using 2018 and/or 2019 (depending on the species) as the base years to define the allocation percentages. Allocations using 2018 as the base year for summer flounder and 2018-2019 as the base years for black sea bass are shown in Table 5. 2018-2019 were used for scup and black sea bass as those species had identical catch and landings limits across those two years. A single base year was used for summer flounder because the summer flounder catch and landings limits varied each year prior to 2019.

Table 5: Allocations using 2018 as the base year for summer flounder and 2018-2019 as the base years for black sea bass (see explanation above).

Sector	Catch-based			Landings-based		
	Summer flounder	Scup	Black sea bass	Summer flounder	Scup	Black sea bass
Commercial	46%	58%	32%	45%	50%	30%
Recreational	54%	42%	68%	55%	50%	70%

FMAT Comments and Recommendations:

A few FMAT members noted that the resulting percentage allocations in **Table 4** are similar to using 2018-2019 as base years (**Table 5**), which may be a simpler approach and would be easier to communicate to stakeholders. However, many **FMAT members agreed that the rationale behind this approach is important because it attempts to provide some stability under the current ABCs and supported further consideration of this approach.** The 2018-2019 base year approach does not account for the current ABCs. The FMAT liked the intent and rationale of maintaining stability or close to recent status quo; however one FMAT member said it was important to emphasize that this would not be true stability relative to current conditions because it would require reducing the commercial quotas for all three species compared to 2019 or 2020 levels (depending on the species) and bringing them closer to 2018/2019 levels.

One FMAT member pointed out that the allocation percentages resulting from this approach are similar to those under many other approaches. He suggested considering **an additional option which would average allocation percentages across multiple approaches.** The group supported consideration of this additional option. **Appendix D** includes example average allocations based on the approaches listed in this document.

Public Comments:

One member of the public recommended removal of this approach due to concerns about the resulting catch limits under lower ABCs. He also noted that there are currently no options to consider increasing the commercial percentage allocations. He asked if the range of alternatives could be considered “reasonable” (a National Environmental Policy Act requirement) if there are no alternatives to consider increasing the commercial allocation percentages.

One Council/Board member asked if consideration could be given to the fact that for many years catch limits were not based on an approved stock assessment and may not have been reflective of stock status at the time. He asked if an evaluation could be done to consider what the catch limits might have been if they were reflective of stock status. One FMAT member mentioned that a few stock assessment leads did an exercise prior to release of the revised MRIP data in 2019 to consider various scenarios based on different assumptions about the potential increase in recreational catch and how it would impact the assessment. The exercise suggested that the commercial allocations would have been lower, but the landings could have been higher due to a higher overall ABC.

4. Recreational sector separation

Recreational sector separation can be considered through either separate allocations for the for-hire sector and private anglers, or as separate management measures for the two recreational sectors without a fully separate allocation, as summarized below.

4.1 Separate sub-allocation of the recreational annual catch limit or recreational harvest limit to for-hire sector and private anglers

This option would specify within the FMP a separate percentage allocation to the for-hire recreational sector of either the ABC, the recreational ACL, or the RHL. There are several potential ways in which a separate allocation could be created for the for-hire sector, described below with comparison to the current process which does not include sector separation. These potential options are illustrated in **Figure 1**. The differences between some of these options are nuanced, and the pros and cons of each approach should be further explored.

- A. Current FMP:** The ABC is divided into the recreational ACL and the commercial ACL. Projected recreational discards are removed from the recreational ACL to derive the RHL. Both the private and for-hire recreational sectors are held to a single combined ACL and RHL, and performance evaluation and AMs are applied to both fisheries together.
- B. Separate ACLs:** The ABC would be allocated three ways: into a private recreational ACL, a for-hire recreational ACL, and a commercial ACL. This method would require development of these three allocations, and development of separate AMs for the private recreational and for-hire sectors.
- C. Recreational Sub-ACLs:** The ABC would remain divided into the recreational ACL and commercial ACL based on the allocation approach selected through this action. The recreational ACL would be further allocated into private and for-hire sub-ACLs. This method would also require development of separate AMs for the private recreational and for-hire sectors.
- D. Separate RHLs:** The private recreational and for-hire recreational sectors would remain managed under a single recreational ACL. Separate RHLs could be developed for each sector for the purposes of determining management measures. Accountability under this option would likely be partially at the RHL level (in the sense that performance to the RHL would likely be evaluated for each recreational sector for the purposes of adjusting future management measures to constrain harvest to the RHL) and partially at the ACL level (in the sense that AMs must be established at the ACL level to trigger a response if the entire recreational ACL is exceeded). This approach includes separate management of harvest only; dead discards are not included in RHLs and would be accounted for at the ACL level.

Note that any approach creating separate ACLs or sub-ACLs would require the development of corresponding separate AMs.

In addition to determining where sector separation occurs, consideration should be given to which data sources and methods to use for sector allocation, including:

- How to use MRIP and/or VTR data in the allocations;
- Whether to allocate using catch or harvest (related to the question of whether to allocate at the ACL or RHL level);
- Whether to allocate in numbers of fish or pounds;
- The base years or other method of evaluating this recreational sector data.

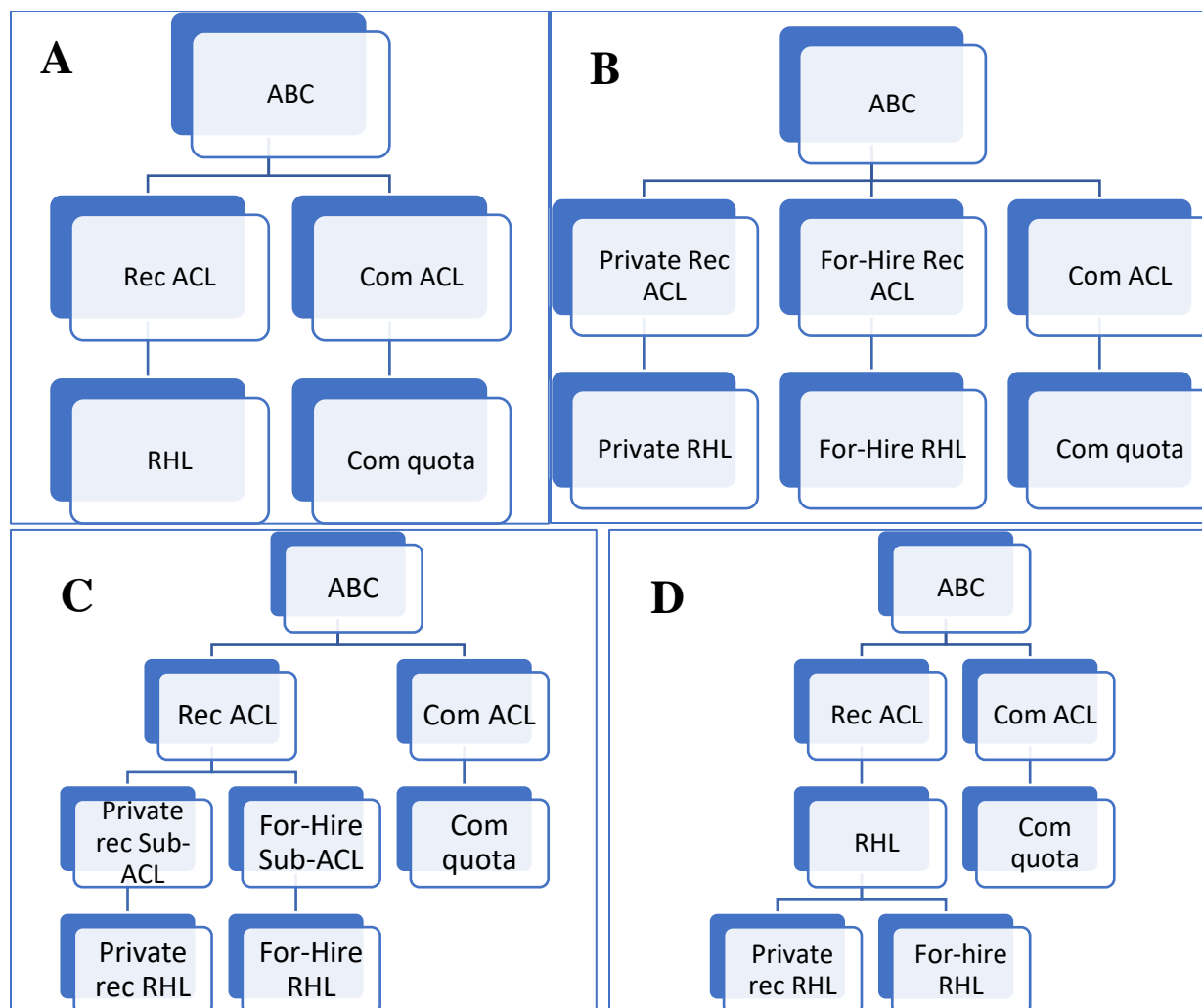


Figure 1: Conceptual flowcharts of potential recreational sector separation configurations including A) status quo, B) separate ACL allocations, C) Sub-ACL allocations, and D) separate RHLs.

Many scoping comments expressed an interest in sector separation to better make use of for-hire VTR data, which they perceive as being more accurate due to for-hire reporting requirements. However, there are also some concerns about the accuracy of self-reported for-hire VTR data. VTR data also includes only estimates of numbers of fish, not weight, so incorporating VTR data into allocations would require either establishing allocations based on numbers of fish, developing a method to estimate weights of harvested and discarded fish from the numbers reported on VTRs, or adding a required data field for weight to the VTR electronic forms. The FMAT previously noted that some state-only permitted vessels are not required to submit VTRs and cautioned that data from these groups would be missing if VTRs are used to determine for-hire allocations.

Comparing for-hire harvest estimates from MRIP to for-hire VTR data for these species, on average, for-hire VTR harvest is lower than MRIP for-hire estimates since 1995 (**Figure 2**).

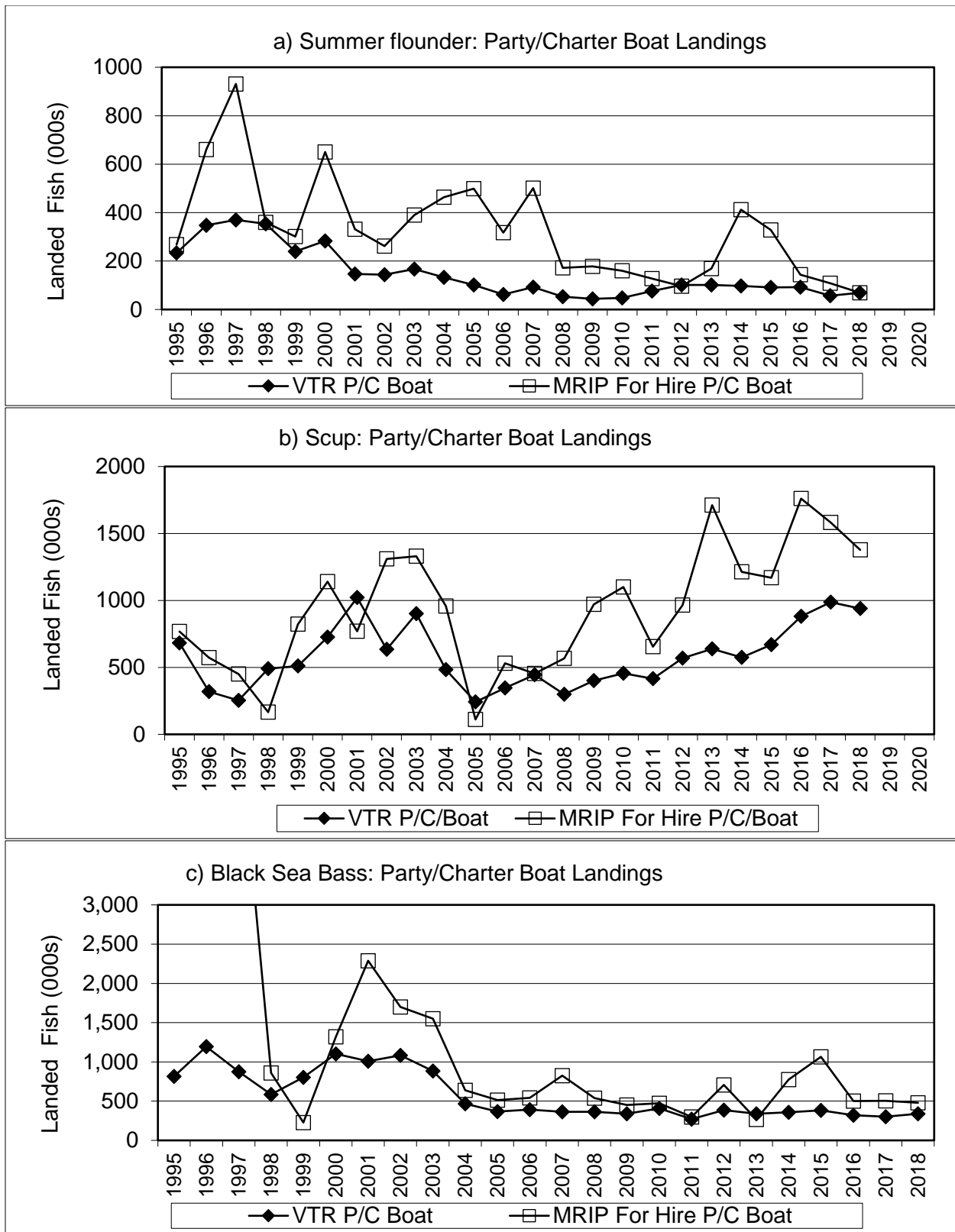


Figure 2: Comparison of federal party/charter vessel VTR estimates of landed fish vs. MRIP estimated for-hire landed fish, 1995-2018, for a) summer flounder, b) scup, and c) black sea bass.

FMAT Comments and Recommendations:

The FMAT recommends further consideration of alternatives for sector separation using separate allocations.

The FMAT noted there is currently some "borrowing" of data between the private angler and for-hire fisheries in the estimation process. There are two separate effort surveys for each recreational sector that go into MRIP. For-hire estimation by MRIP incorporates some information from VTRs. While separate estimates for each recreational sector could serve as a basis for managing them separately, the FMAT felt it was important to note that if the sectors were split completely, some improvements would likely be needed in the sampling efforts for both sectors. Currently, much of the for-hire sampling is focused on discards, which provides information on the length frequency distribution of discarded fish that contributes to the generation of discard estimates for the entire recreational fishery. For landings, many of the measurements come from private anglers, which influences the mean weight of landed fish used to generate recreational harvest estimates. Private angler and for-hire data streams may both need additional biological sampling under sector separation.

For the purposes of calculating allocation options based on past data, the FMAT noted that separate dead discard estimates in weight are not currently available by recreational sector. Technically it would be possible to generate these estimates, but it may not be entirely defensible. The FMAT agreed that calculation of options at this stage could use total dead catch in numbers of fish (for catch-based allocations for separate ACLs or sub-ACLs), or total harvest in numbers of fish or pounds (for harvest-based allocations for separate RHLs). Example allocations based on dead catch and harvest in numbers of fish are shown in **Table 6**.

For base years, the FMAT noted that using the existing commercial/recreational allocation base years from the 1980s and 1990s may not be appropriate given the changes in for-hire and private recreational effort and catch since that time. Since sector-separation has never been in place for these species, recent data is likely more appropriate to determine the allocations between these fisheries.

Table 6: Example approaches for calculating separate sub-allocations to private and for-hire sectors, based on a) dead catch in numbers of fish, and b) harvest in numbers of fish.

a)		Dead catch (numbers of fish)			
	Approach	Years	Private %	For-Hire %	
Summer flounder	Time Series	1981-2018	94%	6%	
	Base years (no data for 1980)	1980-1989	91%	9%	
	5 years post rebuilt declaration	2012-2016	96%	4%	
	5 most recent years	2014-2018	95%	5%	
	10 most recent years	2009-2018	96%	4%	
	15 most recent years	2004-2018	96%	4%	
Scup	Time Series	1981-2018	91%	9%	
	Base years	1988-1992	92%	8%	
	5 years post rebuilt declaration	2010-2014	88%	12%	
	5 most recent years	2014-2018	91%	9%	
	10 most recent years	2009-2018	89%	11%	
	15 most recent years	2004-2018	90%	10%	
Black sea bass	Time Series	1981-2018	72%	28%	
	Base years	1983-1992	65%	35%	
	5 years post rebuilt declaration	2010-2014	90%	10%	
	5 most recent years	2014-2018	89%	11%	
	10 most recent years	2009-2018	90%	10%	
	15 most recent years	2004-2018	87%	13%	
b)		Harvest (numbers of fish)			
	Approach	Years	Private %	For-Hire %	
Summer flounder	Time Series	1981-2018	93%	7%	
	Base years (no data for 1980)	1980-1989	91%	9%	
	5 years post rebuilt declaration	2012-2016	95%	5%	
	5 most recent years	2014-2018	94%	6%	
	10 most recent years	2009-2018	95%	5%	
	15 most recent years	2004-2018	95%	5%	
Scup	Time Series	1981-2018	90%	10%	
	Base years	1988-1992	92%	8%	
	5 years post rebuilt declaration	2010-2014	87%	13%	
	5 most recent years	2014-2018	89%	11%	
	10 most recent years	2009-2018	88%	12%	
	15 most recent years	2004-2018	88%	12%	
Black sea bass	Time Series	1981-2018	66%	34%	
	Base years	1983-1992	61%	39%	
	5 years post rebuilt declaration	2010-2014	85%	15%	
	5 most recent years	2014-2018	86%	14%	
	10 most recent years	2009-2018	87%	13%	
	15 most recent years	2004-2018	82%	18%	

The FMAT discussed the structure of sector separation in the specifications process (see **Figure 1**) and determined that the group should further discuss the pros and cons of each approach and clarify the differences between them before recommending an approach. Some considerations for sector separation structure include:

- A few FMAT members said that simplicity and fewer steps in the flowchart may be beneficial, in which case splitting the ABC into three separate ACLs may be preferable (approach B in the description above).
- There is probably not a need for the Council and Board to fully consider both separate ACLs (approach B) and separate sub-ACLs (approach C). These are functionally very similar in terms of process and accountability but would differ in how the allocations are determined. The FMAT will further clarify the differences between these two options.
- Separate sub-ACLs (approach C) offers a clearer division between recreational and commercial fisheries as a whole. It may be easier to consider future changes to the private vs. for-hire allocation under this structure, as these changes would not impact the commercial fishery.
- In addition, sub-ACLs (approach C) would be able to be adopted separately from the commercial/recreational allocation options. Separation at the ACL level (approach B) would require allocation alternatives that divide allocation three ways between the commercial, for-hire, and private angler sectors. This could complicate consideration of other options in this amendment.
- Stakeholder interest in sector separation seems focused on the ability to have separate management measures. This is something that could be done under all of the sector separation structure options; however, approach D (separate RHLs) may provide a straightforward way to have separate measures while keeping accountability at the level of the whole recreational fishery. Section 4.2 also describes how separate measures could be considered without a separate allocation, if desired.

Expected Future Analysis:

- Further elaborate on the differences and pros/cons of different sector separation structures, including how the options differ in terms of ACTs and management uncertainty.
- Re-calculate allocation options for two recreational sectors using total dead catch (for catch-based allocations) and total harvest (for landings-based allocations) using recent years.
- Further describe the uncertainties in the MRIP data by mode, as well as uncertainties in the for-hire VTR data to the extent possible.

5. Dynamic allocation approaches and options for future modification

Consideration could be given to moving average approaches, trigger mechanisms, and allowing for allocations to be changed via a framework/addendum process.

The Council already has an allocation review policy³, where each relevant allocation will be reviewed at least every 10 years; however, the Council may choose to conduct reviews more frequently based on substantial public interest in allocation review or other factors.

5.1 Trigger approach

Under this approach, catch up to a specified ABC level would be allocated to each sector using the current (or modified) allocations and any additional allowable catch above that level would be divided differently between the sectors. For example, if a higher percent of the surplus were allocated to the recreational sector, this could address some concerns that it is harder to constrain the recreational fishery in times of high availability.

FMAT Comments and Recommendations:

The FMAT recommended further development of this approach. This approach could help address concerns about major changes to the allocations because it limits the amount of change that can occur under different stock conditions. The trigger approach could also provide more flexibility in years of high abundance. Board and Council guidance on the following questions is requested prior to further evaluation of this approach: What might be an appropriate trigger threshold level? Is it appropriate to allocate a higher percentage of landings or catch to the recreational fishery when the ABC is above a certain level? If so, how much should the allocations change?

Expected Future Analysis:

- An evaluation of the historical commercial/recreational share of catch and landings at different biomass levels could help inform the development of this approach.

5.2 Framework/addendum options

Allowing allocation changes through frameworks/addenda would allow for a more expedient process but could also reduce public input on a very contentious issue. The federal regulations list which types of management changes can be made through frameworks. Changes to the commercial/recreational allocation are not on this list. This amendment may consider whether commercial/recreational allocation changes should be added to the list of changes that can be made through a framework. However, even if it were an option to use a framework, the Council and Board could still decide it is more appropriate to use an amendment if significant changes are proposed. Being able to use frameworks could be a helpful tool in the toolbox if for minor changes.

FMAT Comments and Recommendations:

The FMAT recommends leaving this approach in for further analysis. There could be instances in the future when minor changes to data or small allocation issues could be resolved quickly through a framework/addendum instead of a more lengthy amendment process. Several FMAT members suggested developing language to clarify when future changes to allocations could be made through a framework/addendum versus an amendment.

³ https://www.mafmc.org/s/MAFMC-Fishery-Allocation-Review-Policy_2019-08.pdf

6. Allocation transfers between sectors

The Council and Board recommended further consideration of alternatives which would allow for the transfer of allocation between sectors. As shown in **Appendix B**, with the exception of the commercial scup fishery, there have not been notable landings limit underages in either sector for any of the three fisheries in recent years. Therefore, transfers between sectors may not be used on a regular basis. However, it could still be a useful “tool in the toolbox” and a change to the FMP is required to allow for this as an option in future years.

For the purposes of understanding how allocation transfers between sectors would function, the following discusses the different components of the transfer process.

Key components of a transfer provision include:

- **Bidirectionality:** For the purpose of equity, the plan could allow for transfers from both sectors. However, a one-way transfer is used in the bluefish fishery (recreational to commercial).
- **Transfer cap:** A transfer cap defined as a percentage of the ABC or a fixed value in pounds could be considered.
- **Projection methodology:** The decision for the Board/Council to approve/recommend a transfer would likely take place during specifications. An average of the past three years of landings could be used to project each sector’s landings in the upcoming year to determine whether a transfer is warranted. Depending on the timing of specifications and data availability for the current year, it may be possible to use recreational and commercial landings progress in part of the year to develop projections for the remainder of the year before providing final approval of a transfer. This is done in the bluefish fishery. **Table 7** below outlines the scenarios in which transfers would occur.
- **Criteria prohibiting a transfer:** One advisory panel member voiced concern about additional fishing pressure that occurs with the introduction of sector transfers. It may be useful to develop criteria tied to stock status for when sector transfers are prohibited. For example, it may be beneficial to prohibit transfers when a stock is below its target.

Table 7: Scenarios in which a transfer would or would not be warranted.

Scenario	Commercial Sector	Recreational Sector	Outcome
1	projected to achieve quota	projected to achieve RHL	no transfer
2	projected to achieve quota	projected to not achieve RHL	transfer to comm
3	projected to not achieve quota	projected to achieve RHL	transfer to rec
4	projected to not achieve quota	projected to not achieve RHL	no transfer

FMAT Comments and Recommendations:

The FMAT agreed that this approach should remain in the action for further development.

The details concerning how the projections are calculated and the timing of the transfer process are still to be determined. One FMAT member noted that consistency is crucial when calculating projections for recreational specifications and the transfer process. All FMAT members who spoke on the issue agreed that the transfers should continue to be explored as a bi-directional option. The FMAT did express concern in the ability to project recreational harvest, in particular in situations when projections are especially uncertain, for example when significant or variable amounts of harvest occur late in the year. FMAT members noted that it would be helpful to explore in more detail how transfers work for other fisheries. Additional information will be compiled prior to the June joint meeting.

APPENDIX A: Catch vs landings based allocations

This appendix describes the potential implications of catch and landings-based allocations.

Under the current catch-based allocation for scup, the ABC is divided into a commercial and recreational ACL based on the allocation percentages defined in the FMP. Sector-specific expected discards are subtracted from the sector-specific ACLs to derive a commercial quota and a recreational harvest limit.

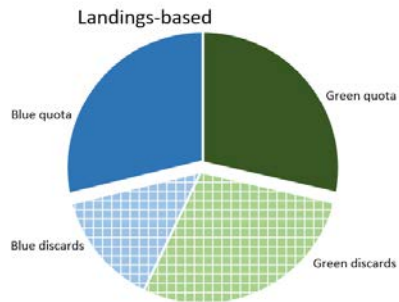
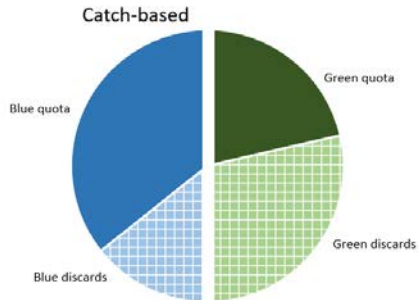
Under the current process for landings-based allocations for summer flounder and black sea bass, the ABC is first divided into expected landings and expected discards based on the advice of the Monitoring Committee. The sector allocations are applied to the landings portion of the ABC. The sector-specific ACLs are equal to the landings-based allocations plus the expected discards by sector. Under this system, higher expected discards in one sector can result in a reduced ACL in the other sector. Under a catch-based allocation (as for scup), expected discards in one sector do not impact the ACL in the other sector.

In addition, if discards are included directly in the allocation (i.e., a catch-based allocation), there may be a greater incentive for each sector to reduce discards in order to increase their allowable landings. This was part of the rationale for creating a catch-based allocation for scup. Commercial scup discards were a concern at the time of development of Amendment 8 which implemented the current allocations.

Figure 3 below demonstrates this concept through a comparison of a hypothetical catch-based 50/50 allocation and a landings-based 50/50 allocation for the "blue" and "green" fisheries. In this example both sectors have equal expected landings but the green sector has higher expected dead discards than the blue sector. Under a landings-based 50/50 allocation, the green sector will have a higher ACL than the blue sector due to its greater expected discards. Under a catch-based 50/50 allocation, both sectors will have equal ACLs. The blue sector will have a higher quota than the green sector due to its lower expected discards.

The reliability and timeliness of discard estimates should be considered when assessing catch-versus landings-based allocations. Depending upon the methodology and data used, recreational discard estimates can be quite variable. MRIP does not provide weight estimates for recreational releases, and thus the method used for stock assessments by the Northeast Fisheries Science Center has previously been used to develop estimates of dead discards in pounds of fish. Dead discards estimates are integral to both catch- and landings-based allocations.

Equal landings by sector, expected green discards 2x blue discards



Equal landings by sector, expected green discards 3x blue discards

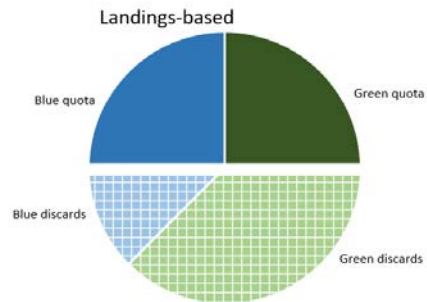
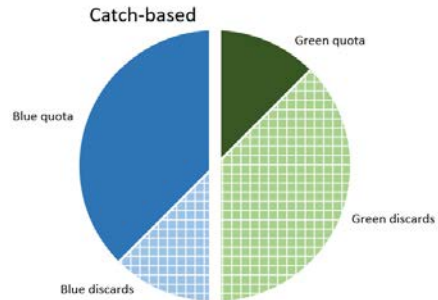


Figure 3: Comparison of hypothetical catch-based 50/50 allocation and landings based 50/50 allocation for the "blue" and "green" sectors under two different scenarios for expected landings and discards.

APPENDIX B: Trends in Fishery Performance Relative to Catch and Landings Limits

Summer Flounder

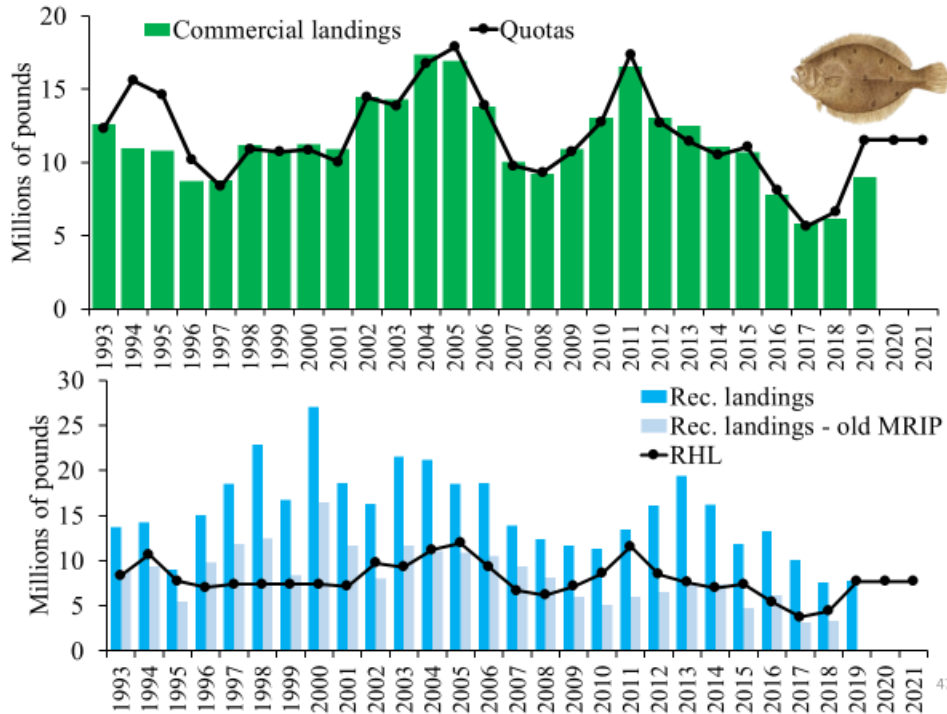


Figure 4: Summer flounder commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1993-2019.

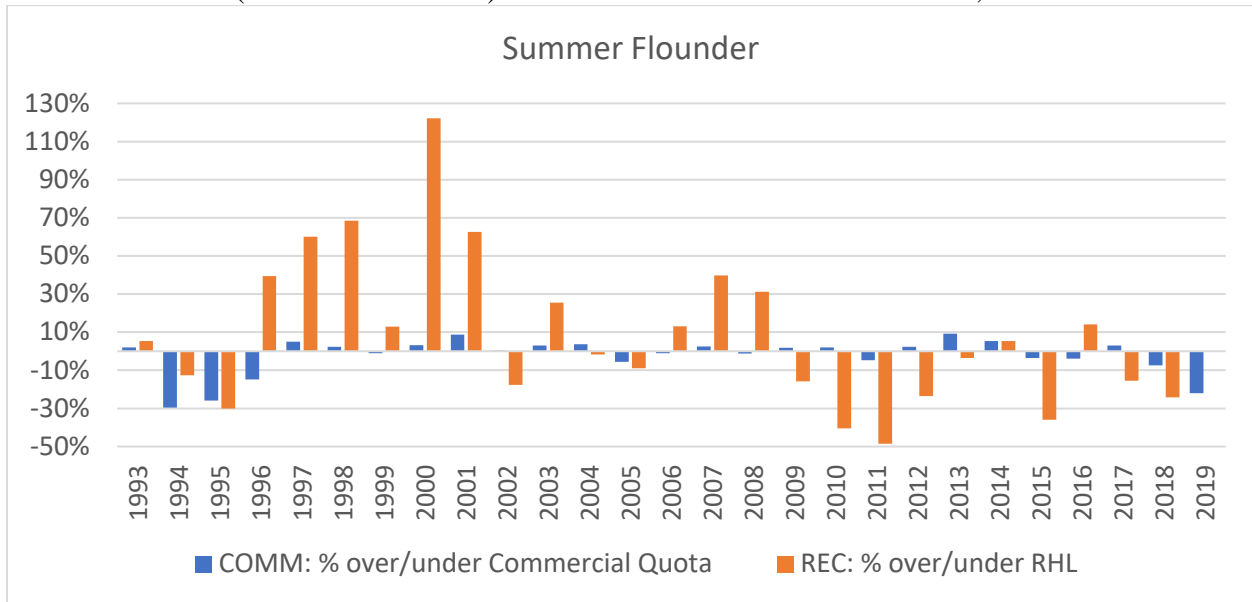


Figure 5: Summer flounder percent over/under the recreational harvest limit and commercial quota in pounds, 1993-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019.

Scup

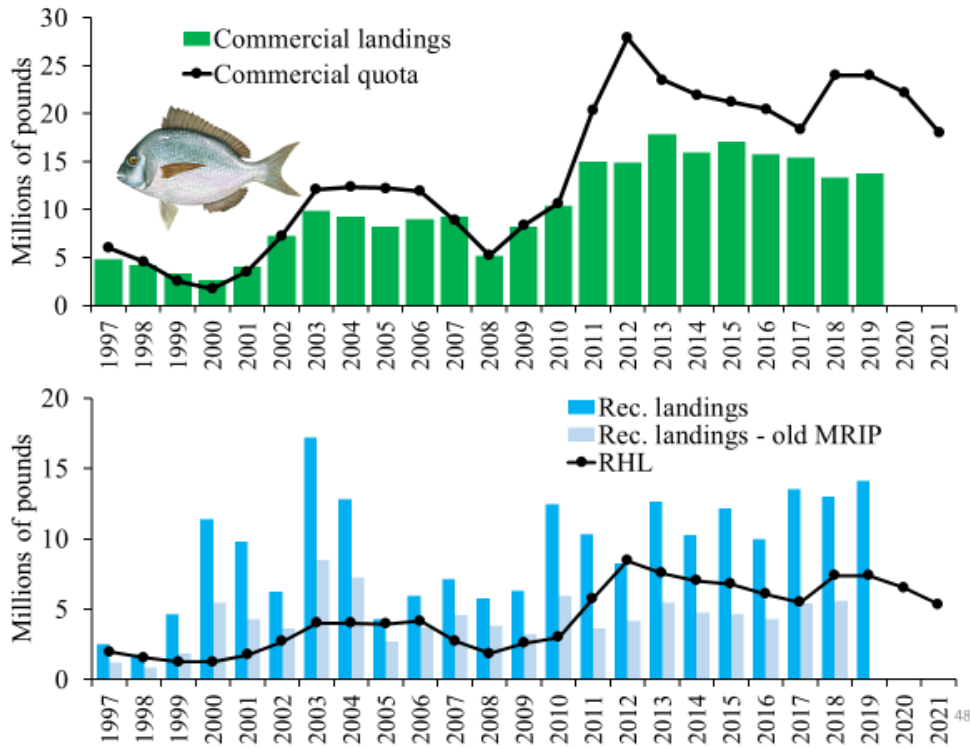


Figure 6: Scup commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1997-2019.

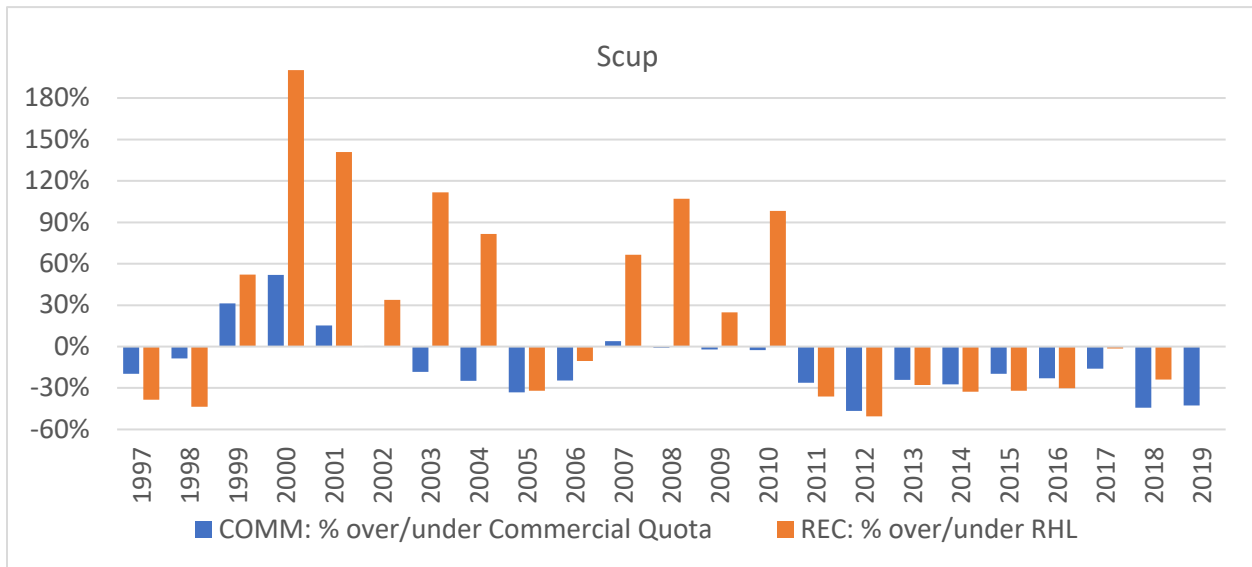


Figure 7: Scup percent over/under the recreational harvest limit and commercial quota in pounds, 1997-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019. Note that the percent over the recreational harvest limit in 2000 was 330%.

Black Sea Bass

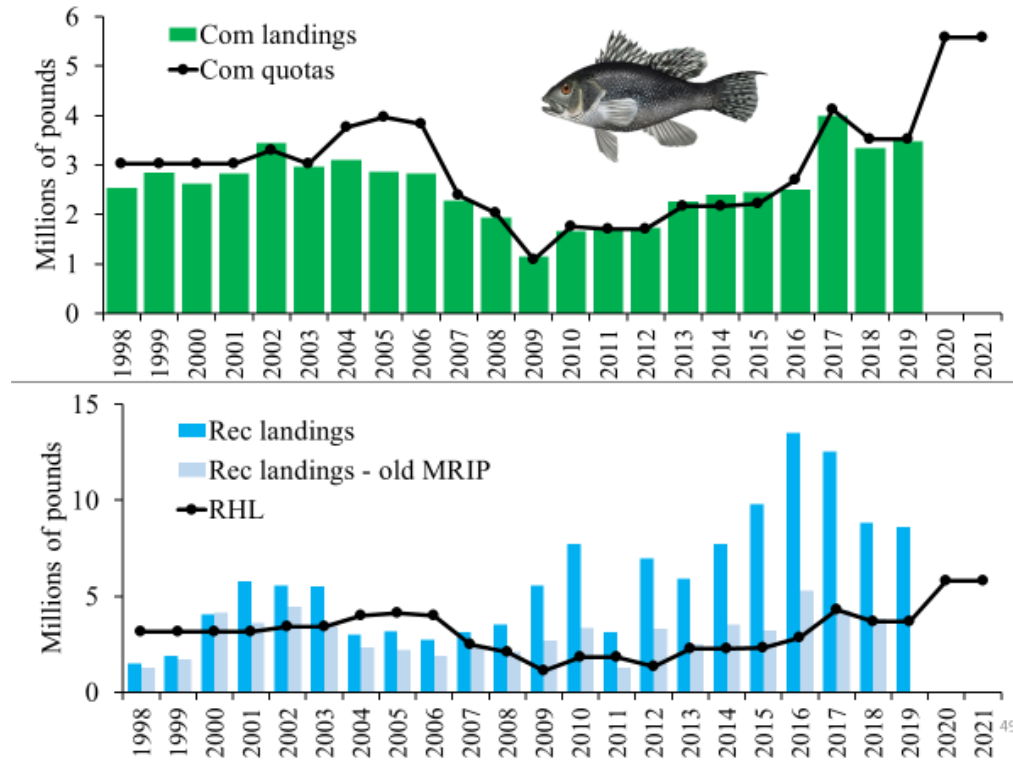


Figure 8: Black sea bass commercial landings relative to commercial quota, and recreational harvest estimates (old and new MRIP) relative to recreational harvest limits, 1998-2019.

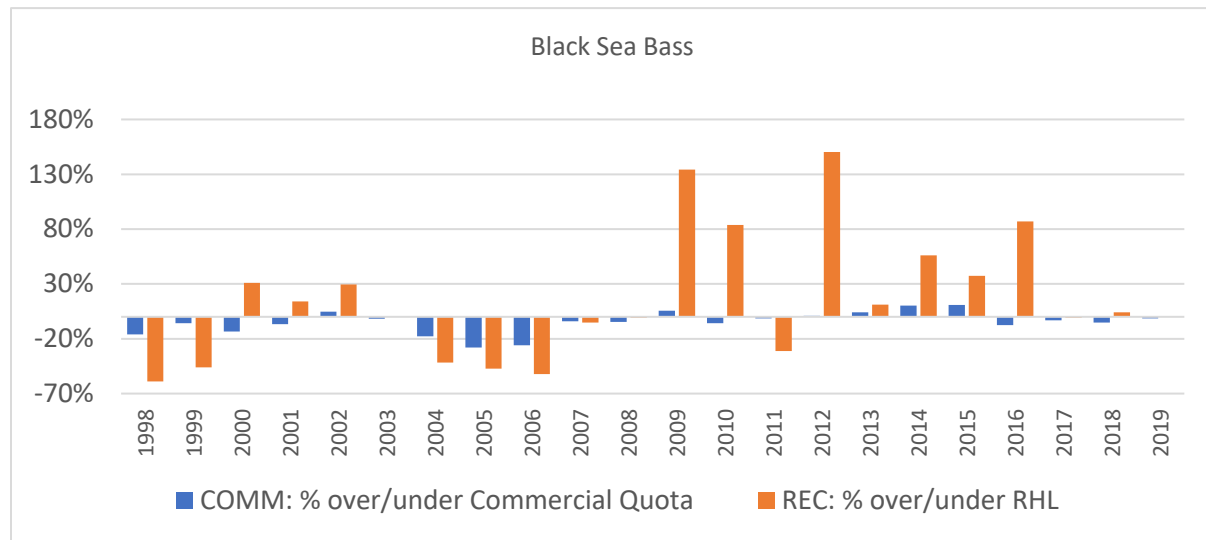


Figure 9: Black sea bass percent over/under the recreational harvest limit and commercial quota in pounds, 1998-2019. Recreational evaluation is based on OLD MRIP data. Note that revised MRIP data cannot be fairly used in this evaluation given that limits were set using the prior estimates of recreational catch. Back-calibrated recreational estimates are not available for 2019. Note that this figure was updated on 6/11/20 to correct a calculation error.

APPENDIX C: Biomass Trends by Species

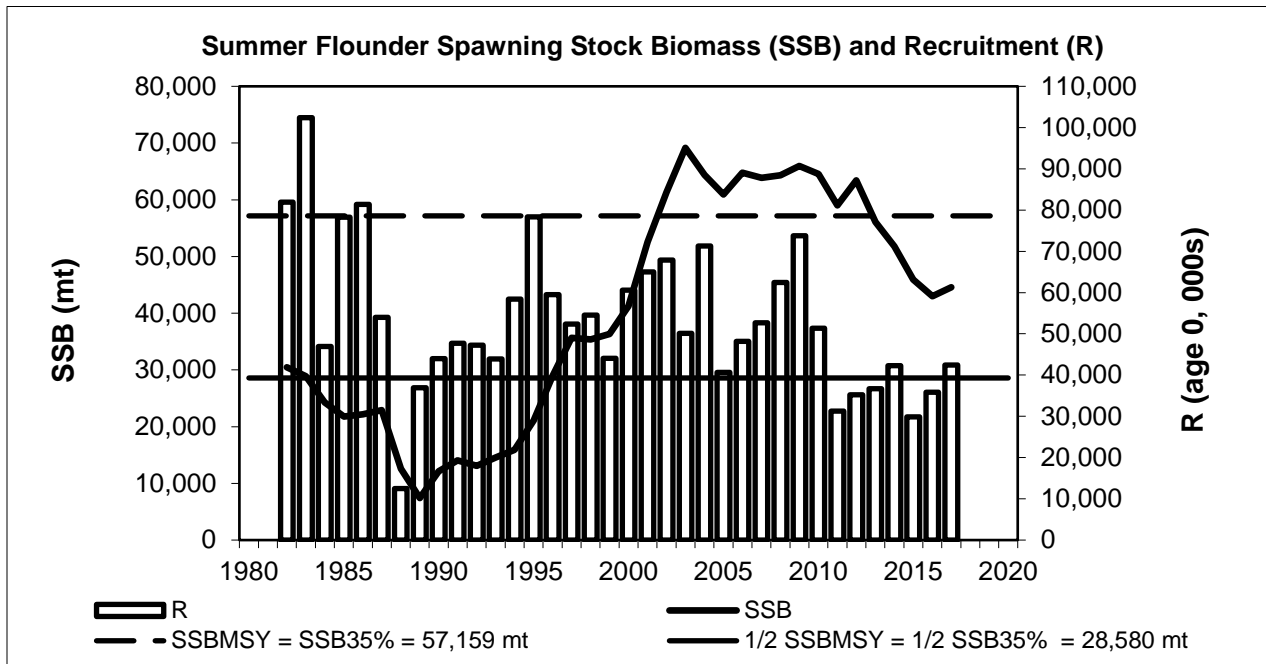


Figure 10: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) 1980-2017. The horizontal dashed line is the 2018 SAW66 target biomass reference point proxy, $SSB_{MSY} = SSB_{35\%} = 57,159$ mt. The horizontal solid line is the 2018 SAW66 threshold biomass reference point proxy $\frac{1}{2} SSB_{MSY} = \frac{1}{2} SSB_{35\%} = 28,580$ mt. Source: NEFSC 2019.

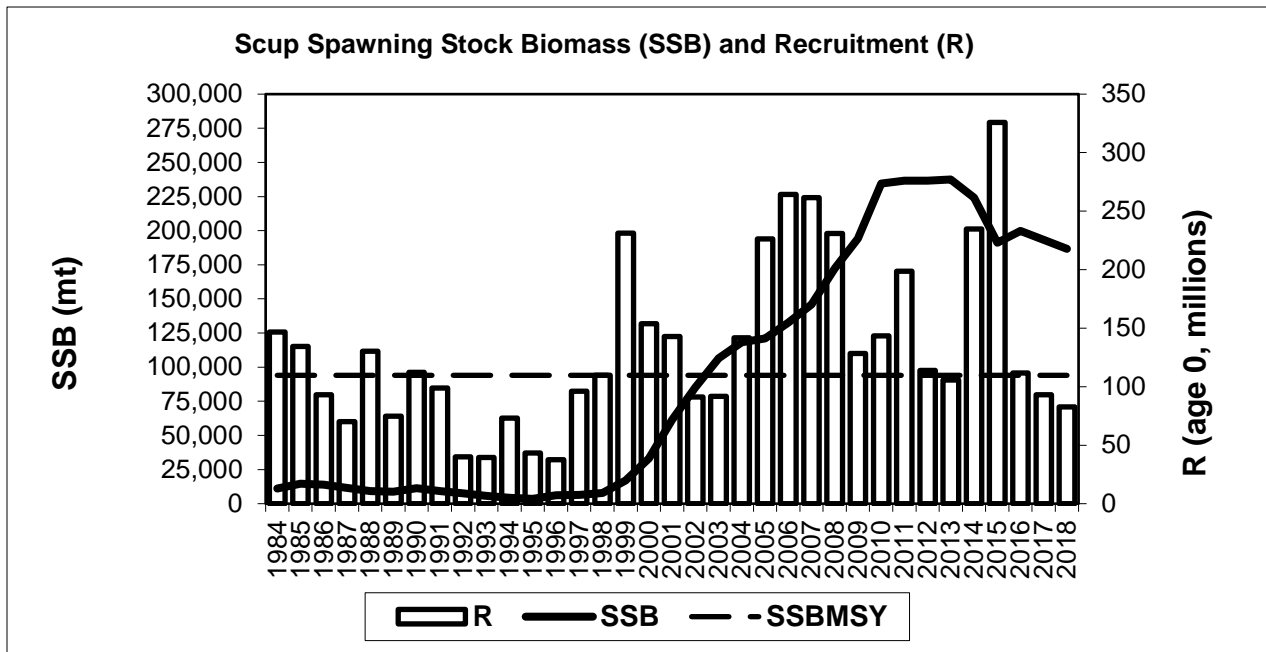


Figure 11: Scup SSB and recruitment at age 0, 1984-2018 from the 2019 operational stock assessment (NEFSC 2019).

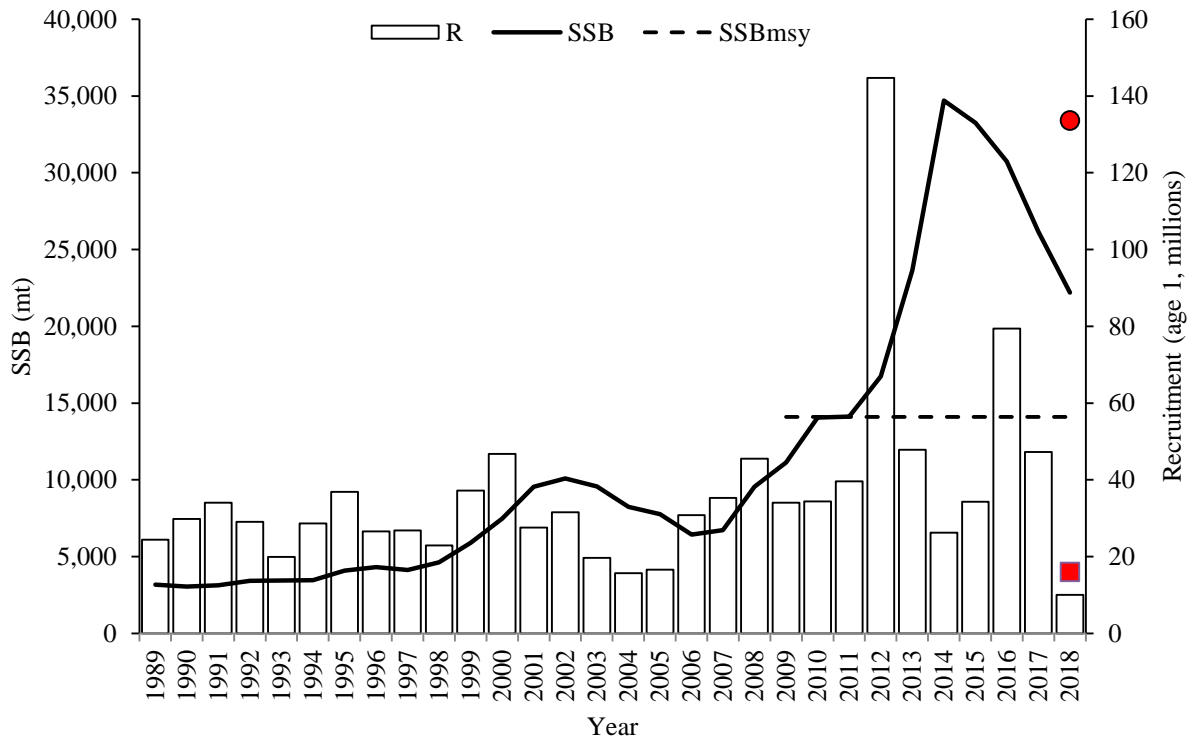


Figure 12: Black sea bass SSB and recruitment, 1989-2018 from the 2019 operational stock assessment. The horizontal dashed line is the updated biomass reference point. (Source: NEFSC 2019).

APPENDIX D: Allocation percentages recommended by FMAT for further consideration

Table 8: Catch-based allocation percentages for summer flounder recommended by the FMAT for further consideration.

Summer flounder: catch-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
N/A	N/A	Same base years, new data (see section 2.1)
40%	60%	2014-2018 base years (see section 2.2)
43%	57%	2009-2018 base years (see section 2.2)
44%	56%	2004-2018 base years (see section 2.2)
43%	57%	Attempt to maintain close to status quo harvest in each sector (see section 3)
46%	54%	2018 base year (see section 3)
43%	57%	Average of all (see section 3)
43%	57%	Average of all but no action alternative (see section 3)

Table 4: Landings-based allocation percentages for summer flounder recommended by the FMAT for further consideration.

Summer flounder: landings-based		
Com. allocation	Rec. allocation	Basis
60%	40%	No action (see section 1)
55%	45%	Same base years, new data (see section 2.1)
41%	59%	2014-2018 base years (see section 2.2)
45%	55%	2009-2018 base years (see section 2.2)
45%	55%	2004-2018 base years (see section 2.2)
43%	57%	Attempt to maintain close to status quo harvest in each sector (see section 3)
45%	55%	2018 base year (see section 3)
48%	52%	Average of all (see section 3)
46%	54%	Average of all but no action alternative (see section 3)

Table 10: Catch-based allocation percentages for scup recommended by the FMAT for further consideration.

Scup: catch-based		
Com. allocation	Rec. allocation	Basis
78%	22%	No action (see section 1)
65%	35%	Same base years, new data (see section 2.1)
62%	38%	2014-2018 base years (see section 2.2)
61%	39%	2009-2018 base years (see section 2.2)
60%	40%	2004-2018 base years (see section 2.2)
59%	41%	Attempt to maintain close to status quo harvest in each sector (see section 3)
58%	42%	2018 base year (see section 3)
63%	37%	Average of all (see section 3)
61%	39%	Average of all but no action alternative (see section 3)

Table 11: Landings-based allocation percentages for scup recommended by the FMAT for further consideration.

Scup: landings-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
57%	43%	Same base years, new data (see section 2.1)
57%	43%	2014-2018 base years (see section 2.2)
57%	43%	2009-2018 base years (see section 2.2)
56%	44%	2004-2018 base years (see section 2.2)
50%	50%	Attempt to maintain close to status quo harvest in each sector (see section 3)
50%	50%	2018 base year (see section 3)
55%	46%	Average of all (see section 3)
55%	46%	Average of all but no action alternative (see section 3)

Table 12: Catch-based allocation percentages for black sea bass recommended by the FMAT for further consideration.

Black sea bass: catch-based		
Com. allocation	Rec. allocation	Basis
N/A	N/A	No action (see section 1)
N/A	N/A	Same base years, new data (see section 2.1)
25%	75%	2014-2018 base years (see section 2.2)
24%	76%	2009-2018 base years (see section 2.2)
28%	72%	2004-2018 base years (see section 2.2)
32%	68%	Attempt to maintain close to status quo harvest in each sector (see section 3)
32%	68%	2018 base year (see section 3)
28%	72%	Average of all (see section 3)
28%	72%	Average of all but no action alternative (see section 3)

Table 13: Landings-based allocation percentages for black sea bass recommended by the FMAT for further consideration.

Black sea bass: landings-based		
Com. allocation	Rec. allocation	Basis
49%	51%	No action (see section 1)
45%	55%	Same base years, new data (see section 2.1)
22%	78%	2014-2018 base years (see section 2.2)
22%	78%	2009-2018 base years (see section 2.2)
27%	73%	2004-2018 base years (see section 2.2)
29%	71%	Attempt to maintain close to status quo harvest in each sector (see section 3)
30%	70%	2018 base year (see section 3)
32%	68%	Average of all (see section 3)
29%	71%	Average of all but no action alternative (see section 3)

APPENDIX E: Examples of Transfer Provisions in Other Fisheries

Bluefish

Under Amendment 1 to the Atlantic Bluefish FMP, the Board and the Council have the ability to recommend that quota be transferred from the recreational sector to the commercial sector. The need for a sector transfer is assessed annually through the specifications process. During specifications in August, an average of the last three years of recreational landings are used to project the next year's landings. These projected recreational landings are compared to the initial proposed recreational harvest limit for the upcoming fishing year. If, based on this comparison, the recreational fishery is not anticipated to land its limit, the Council and Board can recommend that a portion of the recreational harvest limit be transferred to the commercial fishery up to a maximum commercial quota of 10.50 million lbs (4,763 mt). This 10.50 million pound threshold is equal to the average commercial landings for the period 1990-1997. However, if the recreational sector is projected to achieve the RHL for that year, then no transfer is recommended.

Following the August meeting, NOAA Fisheries implements specifications in January for the new fishing year. Once preliminary prior year MRIP estimates are available in February, NOAA Fisheries compares the estimate of recreational landings for the previous year to the RHL to make any necessary adjustments before finalizing the amount of quota transferred. The adjustment notice with final specifications is usually published in March/April.

The recreational Accountability Measures (AMs) for bluefish were updated in Omnibus Amendment 3 to the Bluefish FMP. The AMs indicate that special consideration be given when a sector transfer contributes to a fishery-level ACL (which includes recreational and commercial catch) overage. ACL overages can potentially result from too much quota being transferred away from the recreational sector. Recreational landings may exceed projected catch in a given year and thus may exceed the transfer-adjusted-RHL. In these instances, the Bluefish Monitoring Committee can recommend that the amount transferred between the recreational and commercial sectors be reduced by the ACL overage amount in a subsequent fishing year.

Yellowtail Flounder and Scallops

The New England Fishery Management Council uses a transfer mechanism in the management of groundfish that allows transfer of unused quota for Georges Bank (GB) and Southern New England (SNE)/Mid-Atlantic yellowtail flounder from the Atlantic scallop fishery back to the Northeast multispecies fishery. Each year by January 15th, GARFO estimates the total amount of yellowtail flounder catch in the scallop fishery (for both the GB and SNE/Mid yellowtail stocks). GARFO also produces a projection (a range low-high estimates) of how much the scallop fishery will catch through the end of its fishing year (March 31). If GARFO determines that the scallop fishery is expected to catch less than 90 percent of its sub-ACL for each yellowtail stock, they can reduce the scallop fishery's sub-ACL by to the amount projected to be caught using the high-end estimate of catch. GARFO then increases the groundfish fishery's sub-ACL by the amount taken away from the scallop fishery. Part of the reason this works is that the fishing years are staggered; the scallop fishing year ends before the groundfish fishing year ends, so there is more time for the groundfish fishery to use the quota, and less time for which a projection is needed. Yellowtail bycatch is also

fairly well estimated, and with the rotational access program GARFO also has a good idea of when the scallop fishery is more likely to have high bycatch events. The most recent transfer action (April 2020) is described at: <https://www.federalregister.gov/d/2020-06460>.