



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 3, 2018
To: Council
From: Julia Beaty
Subject: Black Sea Bass Specifications for 2019

The Council and Board will consider 2019 specifications for black sea bass on Tuesday, August 14, 2018. Materials listed below are provided for the Council and Board's consideration of this agenda item.

Materials behind this tab:

- 1) Staff memo on 2019 black sea bass specifications dated July 3, 2018
- 2) Summary of July 19, 2018 Monitoring Committee meeting
- 3) Advisory Panel Fishery Performance Report on summer flounder, scup, and black sea bass
- 4) 2018 Black Sea Bass Fishery Information Document
- 5) Black sea bass data update for 2018
- 6) Additional written comments from advisors on summer flounder, scup, and black sea bass

Materials behind other tabs:

- 7) July 2017 Scientific and Statistical Committee meeting report (*behind Tab 16*)



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MEMORANDUM

DATE: July 3, 2018

TO: Chris Moore, Executive Director

FROM: Julia Beaty, Staff

SUBJECT: 2019 Black Sea Bass Management Measures

Executive Summary

In January 2017, the Mid-Atlantic Fishery Management Council's (Council's) Scientific and Statistical Committee (SSC) recommended acceptable biological catch levels (ABCs) for black sea bass for 2017-2019 based on biomass projections from the 2016 benchmark stock assessment. In February 2017, the Council and the Atlantic States Marine Fisheries Commission's (Commission's) Summer Flounder, Scup, and Black Sea Bass Management Board (Board) adopted the SSC's 2017 and 2018 ABC recommendations but decided to postpone adopting a 2019 ABC.

In July 2018, the SSC will review their previously-recommended 2019 ABC. The Council's Monitoring Committee will meet in July 2018 to review recent fishery performance and recommend 2019 Annual Catch Targets (ACTs) and any necessary modifications to the commercial possession limits, quota period provisions, gear restrictions, and minimum fish size. The Council and Board will meet in August 2018 to review the recommendations of the SSC and Monitoring Committee and to adopt catch and landings limits for 2019, as well as any desired changes to the commercial management measures.

Based on the results of the 2016 benchmark stock assessment, the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2015, the terminal year of the assessment. Spawning stock biomass (SSB) in 2015 was 48.89 million pounds (22,176 mt), 2.3 times SSB at maximum sustainable yield (i.e. $SSB_{MSY} = 21.31$ million pounds/9,667 mt). The average fishing mortality (F) on ages 4-7 in 2015 was 0.27, 25% below the fishing mortality threshold reference point (i.e. $F_{MSYPROXY} = F_{40\%} = 0.36$).

The Northeast Fisheries Science Center (NEFSC) provided a data update on black sea bass fishery catch, landings, and discards, as well as NEFSC and state survey catches through 2017 (NEFSC 2018). No new stock projections or estimates of stock status are available. The data update indicates that black sea bass biomass continues to be high and the 2015 year class appears to be above average in both the northern and southern surveys, as well as fishery discards.

According to dealer data, commercial fishermen landed 3.99 million pounds (1,809 mt) of black sea bass in 2017, about 97% of the commercial quota (4.12 million pounds, 1,869 mt) and the highest landings since at least 1982. According to the 2018 data update from the NEFSC, commercial dead discards were 1.78 million pounds (806 mt; NEFSC 2018). Commercial catch exceeded the 2017 commercial annual catch limit (ACL) of 5.09 million pounds (2,309 mt) by 13%.

According to the Marine Recreational Information Program (MRIP), recreational fishermen from Maine through Cape Hatteras, NC harvested 4.16 million pounds (1,887 mt) of black sea bass in 2017, about 97% of the RHL (4.29 million pounds, 1,946 mt). According to the 2018 data update from the NEFSC, recreational dead discards were 1.27 million pounds (576 mt; NEFSC 2018). Recreational catch was about 1% above the 2017 recreational ACL of 5.38 million pounds (2,083 mt).

Total commercial and recreational catch in 2017 was about 11.20 million pounds (5,080 mt), about 7% above the 2017 ABC of 10.47 million pounds (4,749 mt).

Council staff recommend maintaining the SSC's previously-recommended 2019 ABC of 7.97 million pounds (3,617 mt). Using the standard methodology for deriving other catch and landings limits, this ABC results in a commercial ACL of 3.98 million pounds (1,807 mt) and a recreational ACL of 3.99 million pounds (1,810 mt). Consistent with prior year's Monitoring Committee recommendations, staff recommend no reduction from the commercial and recreational ACLs to account for management uncertainty; therefore, both the commercial and recreational ACTs would be set equal to their respective ACLs for 2019. After removing projected discards, the commercial quota would be 2.95 million pounds (1,341 mt) and the recreational harvest limit (RHL) would be 3.08 million pounds (1,396 mt; Table 1).

An assessment update, with updated biomass projections, is expected to be available in early 2019. This update will incorporate updated catch and survey information through 2017, including estimates of the size of the 2015 year class as well as the revised MRIP time series of recreational catch estimates, which will be released in July 2018. The SSC, Monitoring Committee, Council, and Board will review their recommendations for 2019 measures after the assessment update is available. Thus, 2019 measures recommended in 2018 will likely be interim measures which will be adjusted mid-year in 2019. There are currently no catch and landings limits implemented for 2019; therefore, interim measures are necessary.

Staff do not recommend any changes to the current commercial measures, including the minimum fish size, possession limits, mesh size requirements, or pot/trap gear requirements.

Table 1: Currently implemented catch and landings limits for black sea bass for 2018 and staff recommended measures for 2019.

Management Measure	2018		Basis	2019		Basis
	mil lb.	mt		mil lb.	mt	
OFL	10.29	4,669	Stock assessment projections	9.18	4,163	Stock assessment projections
ABC	8.94	4,057	Stock assessment projections and Council risk policy	7.97	3,617	Stock assessment projections and Council risk policy
ABC Landings Portion	7.18	3,258	80.3% of ABC, based on average 2013–2015 landings as % of catch	6.03	2,737	75.7% of ABC, based on average 2015–2017 landings as % of catch
ABC Discards Portion	1.76	799	19.7% of ABC, based on avg. 2013–2015 discards as % of catch	1.94	880	24.3% of ABC, based on avg. 2015–2017 discards as % of catch
Projected Commercial Discards	0.83	377	47.2% of ABC discards portion, based on 2013-2015 avg. % discards by sector	1.03	446	53.0% of ABC discards portion, based on 2015-2017 avg. % discards by sector
Projected Recreational Discards	0.93	422	52.8 % of ABC discards portion, based on 2013-2015 avg. % discards by sector	0.91	414	47.0% of ABC discards portion, based on 2015-2017 avg. % discards by sector
Commercial ACL	4.35	1,974	49% of ABC landings portion (per FMP) + projected commercial discards	3.98	1,807	49% of ABC landings portion (per FMP) + projected commercial discards
Commercial ACT	4.35	1,974	Commercial ACL, with no deduction for management uncertainty	3.98	1,807	Commercial ACL, with no deduction for management uncertainty
Commercial Quota	3.52	1,596	Commercial ACT minus projected commercial discards	2.95	1,341	Commercial ACT minus projected commercial discards
Recreational ACL	4.59	2,083	51% of ABC landings portion (per FMP) + projected recreational discards	3.99	1,810	51% of ABC landings portion (per FMP) + projected recreational discards
Recreational ACT	4.59	2,083	Recreational ACL, with no deduction for management uncertainty	3.99	1,810	Recreational ACL, with no deduction for management uncertainty
RHL	3.66	1,661	Recreational ACT minus projected recreational discards	3.08	1,396	Recreational ACT minus projected recreational discards

Introduction

The Magnuson-Stevens Act (MSA) requires that the Council's SSC provide scientific advice for fishery management decisions, including recommendations on ABCs, prevention of overfishing, and achieving maximum sustainable yield (MSY). The SSC must recommend ABCs that address scientific uncertainty. The Council's catch limit recommendations cannot exceed the ABCs recommended by the SSC.

The Monitoring Committee develops recommendations for management measures to achieve the ABCs recommended by the SSC. Specifically, the Monitoring Committee recommends ACTs that are equal to or less than the ACLs to address management uncertainty, and recommends management measures designed to achieve these ACTs.

Summer flounder, scup, and black sea bass are cooperatively managed by the Council and the Commission under a joint Fishery Management Plan (FMP). The Council and the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board meet jointly each year to consider SSC and Monitoring Committee recommendations before deciding on proposed catch limits and other management measures. The Council and Board may set specifications for summer flounder, scup, and black sea bass for up to three years at a time. The Council and Board submit their recommendations to NMFS, which is responsible for implementation and enforcement of federal fisheries regulations.

This memorandum includes information to assist the SSC and Monitoring Committee in recommending catch and landings limits and commercial management measures for black sea bass in 2019. Additional information on fishery performance and past management measures can be found in the 2018 Black Sea Bass Fishery Information Document (MAFMC 2018A) and the 2017 Summer Flounder, Scup, and Black Sea Bass Fishery Performance Report developed by the Council and Commission Advisory Panels (MAFMC 2018B).

Recent Catch and Landings

According to dealer data, about 3.99 million pounds (1,810 mt) of black sea bass were landed in 2017 by commercial fishermen, about 97% of the commercial quota. According to the Marine Recreational Information Program (MRIP) estimates, recreational fishermen landed 4.16 million pounds (1,887 mt) of black sea bass north of Cape Hatteras, North Carolina in 2017. This is approximately 3% below the 2017 RHL of 4.29 million pounds. This is the first time since 2011 that the recreational fishery did not exceed the RHL. It should be noted that the commercial and recreational catch and landings limits increased notably in 2017 as a result of the 2016 benchmark stock assessment (Table 2).

As of June 23, 2018, about 46% of the 2018 commercial quota of 3.52 million pounds (1,597 mt) had been landed (Table 3). Recreational harvest data for 2018 are not currently available.

Table 2: Black sea bass commercial and recreational fishery performance relative to quotas and RHLs, 2013-2017.

Year	Commercial Landings (mil lb)	Commercial Quota (mil lb)	Percent Overage/ Underage	Recreational Landings (mil lb)	RHL (mil lb)	Percent Overage/ Underage
2013	2.26	2.17	+4%	2.46	2.26	+9%
2014	2.18	2.17	0%	3.60	2.26	+59%
2015	2.29	2.21	+4%	3.79	2.33	+63%
2016	2.59	2.71	-4%	5.19	2.82	+84%
2017	3.99	4.12	-3%	4.16	4.29	-3%

Table 3: 2018 black sea bass commercial landings by state through the week ending June 23, 2018, according to NMFS weekly quota reports.

State	Cumulative Landings (lb)
ME	0
NH	0
MA	4,569
RI	186,583
CT	17,327
NY	106,187
NJ	300,106
DE	104,487
MD	287,479
VA	374,223
NC	243,526
Other	923
Total	1,625,410
2018 Commercial Quota	3,520,000

Previously Recommended 2019 ABC

At their January 2017 meeting, the SSC reviewed the 2016 black sea bass benchmark stock assessment and peer review results and recommended ABCs for 2017-2019 (MAFMC 2017). The SSC recognized the substantial improvement in the stock assessment, compared to previous assessments, and accepted the OFL estimates produced by the stock assessment for management use. The SSC determined the level of uncertainty of the OFL derived from the assessment required an SSC-specified coefficient of variation (CV) and recommended a CV of 60%. The assessment conducted a thorough analysis and simulation testing regarding the unique life history (i.e. protogynous hermaphroditism) of black sea bass. Based on this, the SSC concluded that no additional buffer for an atypical life history should be applied and therefore used a probability of overfishing (p*) of 40%. Based on this application of the Council’s risk policy, the SSC recommended a 10.47 million pound (4,750 mt) ABC for 2017, a 8.94 million pound (4,057 mt) ABC for 2018, and a 7.97 million pound (3,617 mt) ABC for 2019 (Table 4). The

declining pattern of the ABCs reflects the population responding to fishing at the OFL (F_{MSY}) and the decreasing abundance of the large 2011 year class. The stock assessment estimated that 68.9 million fish were spawned in 2011, nearly three times the 1988-2014 average of 24.3 million fish. This year class played a key role in recent black sea bass stock dynamics.

The Council and Board set black sea bass specifications for the 2017-2018 fishing years in February 2017 based on the SSC’s ABC recommendations. The Council and Board did not set specifications for 2019 due to uncertainties related to a possibly large 2015 year class as well as the possibility of incorporating forthcoming revised recreational catch estimates into an assessment update that will be used for future year specification setting.

The 2018 data update from NEFSC confirmed that the 2015 year-class appears to be above average in both the northern and southern surveys, as well as fishery discards (NEFSC 2018). However, updated biomass projections incorporating data on this year class are not currently available. An assessment update, with updated biomass projections, is expected to be available in early 2019. This update will incorporate estimates of the size of the 2015 year class as well as the revised MRIP time series of recreational catch estimates, which are expected to be released in July 2018. The SSC, Monitoring Committee, Council, and Board will review their recommendations for 2019 measures after the assessment update is available. Thus, 2019 measures recommended by these groups in 2018 will likely be interim measures which will be adjusted mid-year in 2019. There are currently no catch and landings limits implemented for 2019; therefore, interim measures are necessary.

Table 4: ABC, fishing mortality (F), and SSB based on projections from the 2016 benchmark black sea bass stock assessment (NEFSC 2017a). Projected catch, landings, discards, and SSB for 2017-2019 were calculated using a typical life-history application ($p^*=0.40$) and a 60% OFL CV.

Year	ABC (mil lb)	ABC (mt)	F	SSB (mil lb)	SSB (mt)
2016	6.67	3,024	0.27	41.11	18,647
2017	10.47	4,750	0.36	35.88	16,275
2018	8.94	4,057	0.36	31.29	14,183
2019	7.97	3,617	0.36	28.26	12,820

The SSC considered the following to be the most significant sources of uncertainty with the determination of an OFL and ABC from the 2016 benchmark assessment (MAFMC 2017):

- The natural mortality rate (M) used in the assessment — because of the unusual life history strategy the current assumption of a constant M in the assessment model for both sexes may not adequately capture the dynamics in M;
- The spatial distribution of productivity within the stock range;
- The level, temporal pattern, and spatial distribution of recreational catches;
- The nature of exchanges between the spatial regions defined in the assessment model.

Stock Status and Biological Reference Points

The most recent benchmark stock assessment for black sea bass was peer-reviewed and approved at the 62nd Stock Assessment Review Committee (SARC 62) in December 2016 (NEFSC 2017a). To address

concerns raised during the SAW/SARC 53 review (NEFSC 2012) regarding potential spatial structure of the stock, the assessment modeled black sea bass as two separate sub-units (North and South) divided at approximately Hudson Canyon. Each sub-unit was modeled separately and the average F and combined biomass and SSB across sub-units were used to develop stock-wide reference points. As the result of this new information and changes to the modeling approaches, new biological reference points were developed as part of the assessment. Due to the lack of a stock/recruit relationship, a direct calculation of MSY and associated reference points (F and SSB) was not feasible and proxy reference points were approved for management use. SSB calculations and SSB reference points account for mature males and females. The average fishing mortality threshold for black sea bass is $F_{MSY} = F_{40\%}$ (as $F_{MSYproxy} = 0.36$, and the combined $SSB_{MSYproxy}$ target is 21.3 million pounds (9,667 mt). The minimum stock size threshold, $\frac{1}{2} SSB_{MSY}$, is 10.7 million pounds (4,834 mt).

The 2016 benchmark assessment indicated that the black sea bass stock was not overfished and overfishing was not occurring in 2015, relative to the biological reference points. The average fishing mortality on ages 4-7 in 2015 was estimated at $F=0.27$, which is 25% below the fishing mortality threshold of $F=0.36$. Total SSB in 2015 was estimated at 48.9 million pounds (22,199 mt) which is 2.3 times the target $SSB_{MSYproxy}$ of 21.3 million pounds (9,667 mt) and 4.6 times the biomass threshold $SSB_{MSYproxy}$ of 10.7 million pounds (4,834 mt). The terminal year (i.e. 2015) estimates of F and SSB provided here are adjusted to account for retrospective patterns in the assessment and do not change stock status.

Recruitment estimated by the model was relatively constant through the time series except for large peaks from the 1999 and 2011 year classes. Average recruitment from 1989 – 2015 was 24.3 million fish, with the 1999 year class estimated at 37.3 million fish and the 2011 year class estimated at 68.9 million fish. Since 2012, recruitment has been about average, with the latest cohort included in the stock assessment (i.e. the 2014 year class) estimated to be 24.9 million fish.

The NEFSC provided a data update on black sea bass fishery catch, landings, and discards, as well as NEFSC and state survey catches through 2017 (NEFSC 2018). No new estimates of stock status are available. The data update indicates that black sea bass biomass continues to be high and the 2015 year class appears to be above average in both the northern and southern surveys, as well as fishery discards.

Other Management Measures

Recreational and Commercial Annual Catch Limits

The black sea bass ABC includes both landings and discards and is equal to the sum of the commercial and recreational ACLs (Figure 1). Based on the allocation percentages in the FMP, 49% of the total allowable landings are allocated to the commercial fishery, and 51% to the recreational fishery. The Monitoring Committee recommends ACTs, which are set equal to or less than the ACLs to account for management uncertainty.

The ABC is apportioned into expected landings and discards based on the most recent three year average portion of the catch. During 2015-2017, landings averaged 75.7% of total catch and discards averaged 24.3%. The catch and landings limits increased substantially between 2016 and 2017 as a result of the 2016 benchmark stock assessment. This increase would be expected to result in a decrease in discards as a proportion of total catch. Variation in recruitment can also impact discards. For example, large year classes such as the 2011 and 2015 year classes can lead to an increase in discards for a few years due to

commercial and recreational minimum size limits. If availability remains high when those fish are large enough to be retained, they can continue to influence discards when the fishing seasons are closed or due to possession limits being exceeded. Thus, the assumption that patterns in landings and discards in a future year will be similar to the most recent three year average percentage of landings and discards may not hold true. This will be considered by the Monitoring Committee at their July 2018 meeting.

Staff recommend a 2019 commercial ACL of 3.98 million pounds (1,807 mt) and recreational ACL of 3.99 million pounds (1,810 mt), based on the standard process for deriving ACLs from the ABC (Table 1, Figure 1).

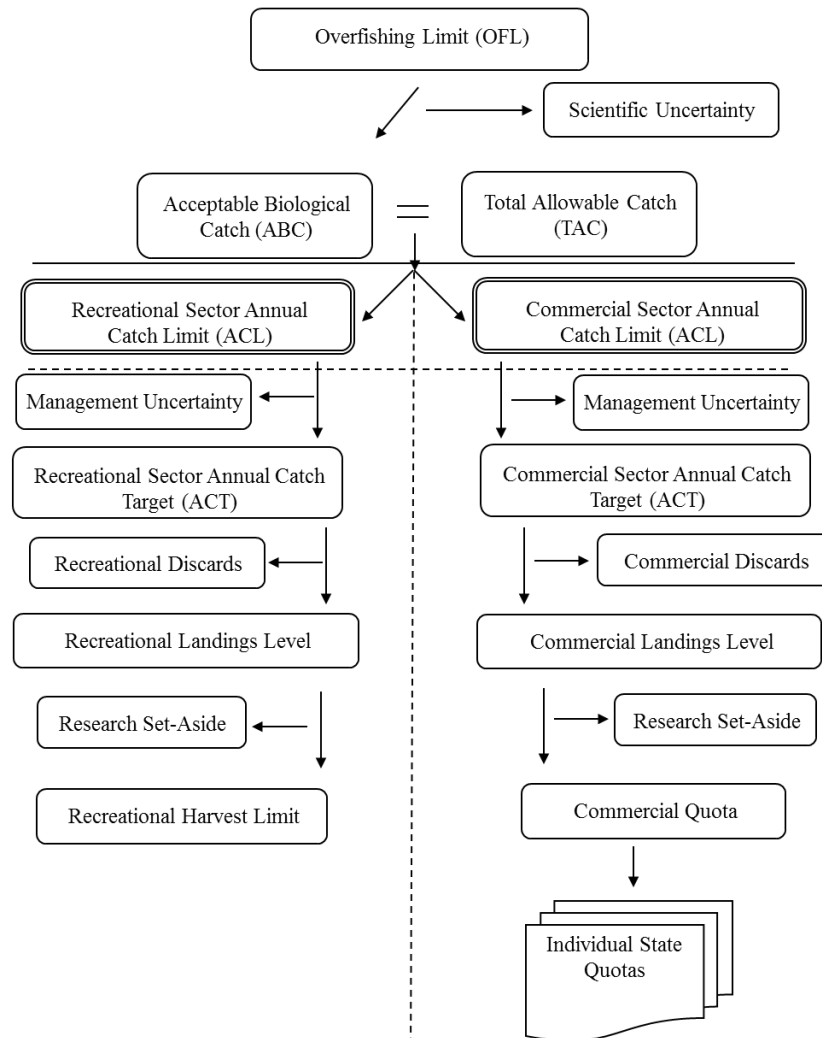


Figure 1: Flowchart for black sea bass catch and landings limits. The research set-aside program was suspended in 2014.

Annual Catch Targets

The Monitoring Committee considers all relevant sources of management uncertainty in the black sea bass fishery when recommending ACTs. 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 discards) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

Commercial landings have generally been near the commercial quotas for most of the past five years (2013-2017). The commercial quota monitoring system is timely and typically successful in constraining landings to the commercial quota. In contrast, the recreational fishery exceeded the RHL in several recent years, with periodic substantial overages (Table 2). The Monitoring Committee has noted that these recreational overages occurred when the black sea bass stock was rapidly expanding and availability to recreational anglers was very high. At the same time, due to the lack of an approved stock assessment prior to 2017, the RHLs were set at levels not reflective of the large and increasing stock abundance. Analysis using the 2016 stock assessment indicates that RHLs during the few years prior to 2017 would have been significantly higher (i.e. approximately double those implemented) if they had been set using the new assessment model, and overages would likely not have occurred to the same degree.

In recent years, the Monitoring Committee and the Commission's Technical Committee have spent a great deal of time developing new and alternative methodologies to evaluate management uncertainty in the recreational fishery, the predictability and uncertainty in recreational catch estimates, and the influence of recreational regulations on harvest. These Committees plan to continue to work to make improvements to the evaluation process for recreational measures.

For 2019, staff recommend no reduction in catch from the recreational or commercial ACLs so that each sector's ACT is set equal to the ACL.

Commercial Quotas and Recreational Harvest Limits

Projected discards are subtracted from the sector-specific ACTs to derive landings limits, which include annual commercial quotas and RHLs. Projected discards are apportioned between the recreational and commercial fisheries using the average percentage of dead discards attributable to each sector over the past three years. Based on 2015-2017 discard data, 53.0% of discards were attributable to the commercial sector and 47.0% to the recreational sector (Table 1). As stated above, the assumption that patterns in landings and discards in a future year will be similar to the most recent three year average percentage of landings and discards may not hold true. This will be considered by the Monitoring Committee at their July 2018 meeting.

After removing projected discards from the staff-recommended ACTs, the commercial quota would be 2.95 million pounds (1,341 mt) and the recreational harvest limit (RHL) would be 3.08 million pounds (1,396 mt; Table 1).

Commercial Gear Regulations and Minimum Fish Size

Amendment 9 in 1996 incorporated black sea bass into the Summer Flounder FMP, and established an initial minimum fish size of 9 inches total length (TL) as part of an effort to reduce fishing mortality on immature black sea bass and increase SSB. The Council and Commission increased the commercial minimum size to 10 inches TL in 1998, and to 11 inches TL in 2002. The 11-inch minimum size has remained unchanged since 2002.

Amendment 9 also established gear regulations that became effective in December 1996, and were modified in 1998 and again in 2002. Current regulations, unchanged since 2002, state that trawl vessels whose owners have a black sea bass moratorium permit and possess 500 pounds or more of black sea bass from January 1 through March 31, or 100 pounds from April 1 through December 31 (i.e., the threshold or incidental possession limits), must fish with nets that have a minimum mesh size of 4.5-inch diamond mesh applied throughout the codend for at least 75 continuous meshes forward of the terminus of the net. For codends with less than 75 meshes, the entire net must have a minimum mesh size of 4.5-inch diamond mesh.

The Council and Commission adopted modifications to the circle vent size in black sea bass pots/traps, effective in 2007, based on the findings of a Council and Commission sponsored workshop. The minimum circle vent size requirements for black sea bass pots/traps were increased from 2.375 inch to 2.5 inch. The requirements of 1.375 inch x 5.75 inch for rectangular vents and 2 inch for square vents remained unchanged. In addition, two vents are required in the parlor portion of the pot/trap.

In the fall of 2015, the Council and Commission's Monitoring and Technical Committees conducted a thorough review of current commercial management measures (MAFMC 2015). The Committees, and subsequently the Council and Board, indicated that further exploration of some measures may be justified. Specifically, for black sea bass, this included assessing the feasibility of a common minimum mesh size for summer flounder, scup, and black sea bass, as well as summarizing past studies on mesh sizes and pot/trap configuration requirements for all three species.

Stemming from this discussion, the Council funded a project which analyzed the selectivity of multiple codend mesh sizes relative to summer flounder, black sea bass and scup retention in the commercial bottom trawl fishery in the Mid-Atlantic region. Results 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). The study was not able to identify a common 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 (Hasbrouck et al. 2018).

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.

Recreational Management Measures

Specific management measures that will be used to achieve 2019 RHL will not be determined until after the first four waves (i.e. January - August) of 2018 recreational landings are reviewed. These data will likely be available in October 2018. The Monitoring Committee will meet in November to review these data and make recommendations regarding any necessary changes in the recreational possession limits, minimum sizes, and seasons.

For 2018, the Council and Commission provided states the opportunity to open their recreational black sea bass fisheries during the month of February for the first time since 2013. The Council and Commission will consider doing so again for 2019.

Only North Carolina and Virginia opted to open their recreational black sea bass fisheries in February 2018. No black sea bass were harvested in North Carolina in February 2018. It was estimated that 4,826-5,206 pounds of black sea bass were harvested by recreational fishermen off Virginia in February 2018.

References

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NEFSC (Northeast Fisheries Science Center). 2018. Black Sea Bass 2017 Catch and Survey Information for Stock North of Cape Hatteras, NC - Report to the Mid-Atlantic Science and Statistical Committee. Available at: <http://www.mafmc.org/ssc-meetings/2018/july-17-18>



**Summer Flounder, Scup, and Black Sea Bass Monitoring Committee
July 19, 2018 Meeting Summary
Baltimore, MD**

Monitoring Committee Attendees: Sydney Alhale (VMRC), Julia Beaty (MAFMC staff), Peter Clarke (NJ F&W), Tiffany Cunningham (MA DMF), Kiley Dancy (MAFMC staff), Steve Doctor (MD DNR), Emily Gilbert (GARFO staff), John Maniscalco (NY DEC), Jason McNamee (RI F&W), Brandon Muffley (MAFMC staff), Kirby Rootes-Murdy (ASMFC staff), Caitlin Starks (ASMFC staff), T.D. VanMiddlesworth (NC DMF), Greg Wojcik (CT DEEP), Rich Wong (DE DFW)

Additional Attendees (all via webinar): Emerson Hasbrouck (Cornell Cooperative Extension/ASMFC Board member), Gavin Fay (UMass Dartmouth), Scott Curatolo-Wagemann (Cornell Cooperative Extension), Thomas Heimann (Commercial Fisheries Research Foundation)

Mesh Size Selectivity Study

The Monitoring Committee (MC) received a presentation on the results of a mesh size selectivity study for summer flounder, scup, and black sea bass funded by the Council's Collaborative Fisheries Research Program. The MC agreed that this study provides valuable contemporary information on the mesh selectivities for all three species. This information could be useful for future stock assessments. The results suggest that, in general, the current minimum mesh sizes are effective at releasing catch of most undersized and immature fish.

As described in more detail below, the MC discussed several possible changes to the current mesh size and/or minimum fish size requirements, but **emphasized that fishing industry feedback should be sought and additional analysis should be completed before pursuing specific changes.**

The study results indicate that either a 4.5" diamond (the current black sea bass minimum mesh size) or 5.0" diamond (the current scup minimum mesh size) could be an appropriate common minimum mesh size for scup and black sea bass. The MC was supportive of further exploring the biological and economic impacts of a common 4.5" or 5" diamond mesh size for these two species. Analysis is needed to determine how much catch of legal-sized fish would be lost if the black sea bass minimum mesh size were increased to 5.0" diamond. The impacts of this lost catch would also depend on market factors (e.g., larger fish are usually worth more).

At the April Council meeting, there was some discussion of whether a 13-inch minimum fish size could be adopted for summer flounder in order to move to a 5.0" diamond minimum mesh size for all three species. The MC recommended that if the Council and Board wish to explore this option, additional analysis should be completed to evaluate the potential biological impacts of this change on the stock. These impacts should be carefully considered given that recruitment has been below average and stock biomass is close to the overfished threshold. In addition, the MC noted that a

size limit decrease could increase high grading, especially under low quotas and increase the disparity between commercial and recreational fishery regulations.

The value of mesh regulation consistency is largely dependent on current use patterns. For example, some vessels may already use 5.0" diamond mesh to target black sea bass, as opposed to the current minimum mesh size of 4.5" diamond. If most vessels already use 5.0" mesh, the burden of changing the minimum mesh size from 4.5" to 5.0" diamond would likely be low. The value of consistent mesh sizes would also be clarified by understanding how much overlap there is between the three species in terms of target species and catch within trips.

Although moving to a consistent mesh size for two or three species would simplify regulations, such changes could also create economic and administrative burdens that may offset any gains from regulatory simplicity. **The group recommends that any potential future changes involve significant lead time before implementation to allow time for fishermen to plan for the cost of replacing gear.** A cost-benefit analysis of the costs of gear transition versus potential biological benefits would be helpful if such regulation changes were pursued.

The current minimum mesh sizes for summer flounder are 5.5" diamond or 6.0" square. The MC noted that the summer flounder selectivity curve for 6.0" square mesh does not appear to be equivalent to that of the 5.5" diamond. Instead, the 6.0" square is much more similar to a 5.0" diamond mesh. The 6.0" square mesh releases less than 50% of minimum size fish. The MC had some concerns with the amount of undersized summer flounder caught with the 6.0" square mesh and recommended further exploring the impacts of this mesh size. **Phasing out the use of 6.0" square mesh for summer flounder could reduce discards of undersized fish.** The MC noted that further analysis should be done on how many vessels are currently using 6.0" square vs. 5.5" diamond mesh.

For any possible mesh size changes, additional analysis would be needed on how the changes would impact discards. For example, reducing the scup mesh size to 4.5" for consistency with black sea bass could increase scup discards; however, the results of the new study show similar 4.5" and 5.0" selectivity curves for scup, so the effect may be small. As noted above, summer flounder discards could potentially be reduced by moving away from the 6.0" square mesh regulation.

Summer Flounder Comments and Recommendations

The MC supported the staff recommendations for 2019 annual catch limits (ACLs), annual catch targets (ACTs), commercial quota, and recreational harvest limit (RHL; Table 1). As described in the staff memo, these measures are expected to be interim measures until they can be revised based on the results of the new benchmark stock assessment, likely in mid-2019.

The MC discussed that there is some additional risk (biological risk as well as risk to the fishery) with these specifications given several process and technical considerations. For example, by the time the catch and landings limits are adjusted in mid-2019, many states will be well into their commercial fishing year. In addition, similar to the SSC, the MC expressed concerns with using an additional year of projected stock biomass from the 2016 assessment update. Stock projections several years out are always more uncertain, and the model used as the basis of these projections has a history of overestimating biomass and underestimating fishing mortality. In addition, given below-average recruitment for summer flounder for the past several years, the MC is concerned

that assumed recruitment in the projections may be higher than is realistic for the stock at this time. Finally, there is considerable uncertainty in the magnitude and direction of changes in stock status and catch limits that may result from the new benchmark stock assessment.

While the MC ultimately supported the staff recommendation of revised 2019 ACTs, the group noted the Council and Board could consider mitigating some of the risk and uncertainties highlighted above. One example the MC discussed would be to keep the ACTs static between 2018 and 2019. The MC does not have additional information or an agreed-upon method for determining an appropriate alternative reduction, other than *status quo*, from the ACLs to the ACTs.

For the commercial fishery, the monitoring and fishery closure system is timely and has typically been successful in holding the landings close to the quota. States should continue to be diligent in managing their state quotas.

The MC discussed whether recent increases in commercial discards present management uncertainty issues that would warrant reconsideration of the commercial ACT. Commercial discards increased in 2017, and the MC concluded (based in part on observer data) that this is largely due to the very low quota in 2017. However, the MC indicated that additional analysis should be done regarding the drivers of increased discards to see if there are other measures that could reduce commercial discards or if statistically anomalous estimates may be driving the increases.

The MC noted that the increase in the commercial ACL between 2017 and 2018, and the proposed increase in the ACL between 2018 and 2019, may result in reduced discards relative to 2017 as some portion of discards are converted to landings with increased quotas. However, a reduction in the commercial ACT is expected for the initial 2019 specifications given that a commercial Accountability Measure (AM) has been triggered due to an overage of the commercial ACL in 2017. This could also mitigate some of the risks noted above.

For the recreational fishery, the MC agrees that management uncertainty is best considered during the recreational measures setting process in the fall. The group will need to carefully consider development of recreational measures for 2019, given the lack of in-season closure authority for the recreational fishery. The MC continues to work toward improved approaches to developing recreational measures. The Council, Board, MC and Technical Committee (TC) plan to continue developing a proposed policy of less reactionary recreational measure adjustments, providing for stability in the measures from year to year if projected harvest is within a to-be-determined measure of uncertainty from the following year's RHL. At this time, the MC recommends that any potential liberalizations in 2019 recreational measures not be taken, at least until preliminary 2018 harvest can be evaluated and the revised stock assessment results can be incorporated into management.

The MC agreed with the staff recommendation that no changes be made to the commercial minimum fish size (14-inch total length), gear requirements, and exemption programs for 2019. As noted above, considering the recent mesh size selectivity study results may warrant further evaluation for summer flounder (i.e. the impacts of the 6.0" square mesh size, on catch and discards of undersized fish). The MC recommends no changes to these measures for 2019, but will revisit this issue following further evaluation and analysis of potential effects of mesh size changes and input from industry.

Scup Comments and Recommendations

The MC maintained their previous recommendation that the 2019 commercial and recreational scup ACTs be set equal to their respective ACLs, with no reduction for management uncertainty. They also recommended no changes to their previously-recommended 2019 commercial quota and RHL (Table 2).

The biomass projections which served as the basis for the 2018 and 2019 scup acceptable biological catch levels (ABCs) assumed that 87% of the 2017 ABC would be caught based on performance of the 2016 fishery; however, preliminary landings and discard information indicate that 113% of the 2017 ABC was caught. The MC agreed with the SSC's conclusion that this is a source of implementation error and said this may warrant further consideration for future specifications.

The MC discussed a request from Massachusetts and Rhode Island that the federal scup commercial incidental possession limit increase to 4,000 pounds during April 15 - June 15 for all permit holders. Trawl vessels which possess more than the incidental possession limit must comply with the minimum mesh size of 5.0" diamond. The federal incidental possession limit is currently 1,000 pounds from October through April and 200 pounds from May through September. The intent behind the request is to allow the small mesh inshore spring fisheries for longfin squid in those states to retain, rather than discard, the scup they catch incidentally. **The MC tentatively supported the proposed change; however, they requested that the following information be analyzed and considered before the Council and Board approve the change:**

- The number of participants in the longfin squid fisheries which may be impacted by this change.
- The proportion of longfin squid and scup in catches on trips that caught both species with small mesh during April - June.
- The length frequencies of scup discarded in small mesh fisheries during April - June.
- The proportion of the spring longfin squid fishery which would be accommodated by a 4,000 pound scup incidental limit, compared to a 3,000 pound or 2,000 pound limit.
- Differences in the behavior and seasonal distributions of scup and longfin squid in the spring. For example, the MC discussed the idea that larger scup migrate inshore before smaller scup. An increased incidental possession limit during the times of year when larger scup are more prevalent would be more beneficial than during the times of year when smaller scup are also present as scup less than 9 inches total length cannot be retained in commercial fisheries.

The MC expressed some concern about the potential impacts of this proposed incidental limit increase on the scup stock; however, given that biomass is currently more than double the target, they agreed that the risk of negative impacts may be low. They suggested that if this change is implemented, it be reconsidered after one year or if biomass falls below the target or if some other trigger is met.

The MC discussed the 71% increase in commercial scup discards between 2016 and 2017 (from 6.11 million pounds to 10.42 million pounds) and agreed that it was likely driven by the large 2015 year class. They recommended that scup discards continue to be closely monitored and measures to reduce discards be considered. They did not express a desire to revise the 2019 catch and landings limits to account for this increase in discards. Discards may decline in 2018 and 2019

because the 2015 year class will be large enough to be retained in the commercial fishery and the 2018 and 2019 commercial quota is 30% higher than in 2017.

The MC considered a proposal from Massachusetts for a “bait tolerance” for small scup caught in recreational fisheries. The proposal suggested that anglers be allowed to retain up to 5 scup as small as 6 inches, compared to the current recreational minimum size of 9 inches in federal waters and in most states. This would allow anglers to use small scup for live bait for species like striped bass and bluefish. The proposal suggested that anglers would not retain 6-inch scup for other purposes as larger scup are readily available and are preferred by anglers who harvest scup for personal consumption.

The MC noted that a 5 fish possession limit with a 6-inch minimum size, in combination with a higher bag limit at a higher minimum size would add complexity to the regulations. This would make the regulations more challenging to enforce and would also complicate analysis of the impacts of regulations. The MC recommends an analysis of how many immature scup would be harvested if this change were made. Only about 20% of 6-inch scup are mature. The MC also wished to know how many anglers would take advantage of this “bait tolerance” and questioned if a special permit could be required. One MC member questioned if the use of live scup as bait increases the discard mortality of striped bass. The MC did not recommend any changes to the recreational minimum fish size or bag limit at this time but will reconsider these measures during their fall 2018 meeting.

As summarized above, the MC recommended no changes to the scup minimum mesh size requirements. **The MC also recommended no changes to the other gear requirements, the commercial minimum fish size, possession limits, and quota period regulations.**

Black Sea Bass Comments and Recommendations

The MC supported the staff recommended ACTs, commercial quota, and RHL for 2019. The commercial and recreational ACTs are set equal to their respective ACLs, with no reduction for management uncertainty (Table 3).

The ACL, ACT, quota, and RHL calculations divide the ABC into expected landings and discards based on the average proportion of total catch that was landed and discarded during 2015-2017. Expected discards are further divided between the commercial and recreational sectors based on the proportion of discards by sector during 2015-2017. The MC acknowledged that the proportions of catch that will be landed and discarded in 2019 are uncertain and may differ from 2015-2017. This is a source of uncertainty in the sector-specific catch and landings limit calculations. If discards are much higher than expected, then AMs may be triggered, which could require reductions in catch limits in future years. If discards are much lower than expected, then the quota and/or RHL may be set too low. Despite these concerns, the MC couldn't support or justify the use of a different metric for estimating 2019 discards and apportioning them between the commercial and recreational sectors at this time. The MC will explore other options for future years. The MC noted that the current method of using the most recent three year average is unable to account for incoming year class strength, is reactive to past fishery performance, and is not predictive of what might occur in the future.

The MC questioned whether biomass projections derived from the stock assessment could project what proportions of the ABC will be landed and discarded in future years based on year class

strength, different fishery selectivities, and any other relevant information. This could allow for more accurate calculations of expected discards than the current method; however, the stock assessment may not be structured in a way to allow for this.

The MC discussed information provided with the data update from the NEFSC which shows that estimated pot/trap discards in the southern region in 2017 are much higher when based on observer data than when based on vessel trip report (VTR) data. The MC thought the observer-based estimate in the southern region seemed extremely high and requested that staff follow up with the assessment scientist to confirm that estimate.¹ The MC also said the length frequencies of discarded black sea bass, which were not presented at the meeting, could be informative.

The MC discussed different ways to reduce commercial and recreational discard mortality due to barotrauma. One MC member questioned whether venting could be required, noting that some studies have shown that venting, when done properly, can be very successful at reducing discard mortality. After some discussion, the MC agreed that venting should not be mandated as this would be difficult to enforce and could cause more harm than good. For example, if anglers attempt to vent black sea bass in the wrong area (e.g. through the stomach) or with an unclean needle, the increased risk of infection could decrease, rather than increase, the likelihood of the fish surviving. The MC acknowledged the benefits of venting would vary by area and time of year as barotrauma is a greater source of mortality in some areas (e.g. deeper depths) and times of year (e.g. during the winter when black sea bass are found at greater depths and during summer when the difference between surface and bottom temperature is greatest) than others.

The MC agreed that venting in the commercial fishery would be too time consuming due to the volume of fish that can be discarded on a given trip. One MC member described baskets or elevators that can return multiple black sea bass to depth at the same time. Research into these methods is being conducted in Delaware.

The MC supported education and outreach efforts to train fishermen on how to properly vent black sea bass and how to use descending devices. In the past, NOAA Fisheries, Sea Grant, and other agencies have offered such trainings and have made venting equipment and descending devices available to anglers. The MC strongly supported continuation of such programs.

Framework and Addendum on Conservation Equivalency, Block Island Sound Transit, and Slot Limits

Staff summarized management alternatives under consideration through a framework and addendum that addresses conservation equivalency for black sea bass and summer flounder, Block Island Sound transit provisions for all three species, and the use of slot limits in the recreational fisheries for all three species.

One set of alternatives considers the use of conservation equivalency for black sea bass, whereby the federal recreational measures can be waived in favor of the measures in the states where anglers

¹ After the meeting, the stock assessment scientist confirmed that the discard estimates may need further refinement. Although the value of the observer-based discard estimate shown at the meeting may not be accurate, the suggestion that VTR-based estimates are low is likely valid.

land their catch. The fishery management plan (FMP) currently only allows the use of conservation equivalency for summer flounder.

Recreational catch and harvest data is generally less precise at the state or regional level than at the coastwide level. Under conservation equivalency, the Board must certify that the combination of state and/or regional measures will result in a similar level of harvest as the non-preferred coastwide measures. This necessitates an examination of state and/or regional level data. One MC member suggested that the data be examined to determine if the state/regional level data for black sea bass is more or less precise than for summer flounder. This could help the Council and Board determine if conservation equivalency is more or less appropriate for black sea bass compared to summer flounder.

One MC member asked if there are any examples of slot limits for food fish that are biologically beneficial, as well as increase angler satisfaction. Other MC members said slot limits for red drum and grouper are good examples; however, they cautioned that differences in biology and/or habitat use of those species compared to summer flounder, scup, and black sea bass may limit the usefulness of this comparison.

One MC member emphasized that the current stock status of summer flounder (i.e. overfishing is occurring and biomass is below the target) is not conducive to experimentation with alternative management measures such as slot limits, in particular due to previous research on the subject suggesting a high potential for increased harvest under a slot limits.² One MC member said slot limits are most beneficial for longer-lived species and there may not be enough older summer flounder for the benefits of slot limits to be fully realized.

Another MC member said the stock status of black sea bass is good, but there are other major management challenges such as how to best account for the different abundances between the northern and southern regions. Another MC member said, given concerns about barotrauma for larger black sea bass, measures to reduce discard mortality (e.g. use of descending devices, venting) should be seriously considered if slot limits are to be used for this species.

One MC member requested that this framework and addendum include an updated conservation equivalency timeline as the timeline in Framework 2, which implemented conservation equivalency for summer flounder, does not reflect current practice.

² Wong, R. 2009. Slot limit management for recreational summer flounder harvest. Available at: http://www.mafmc.org/s/Slot_limit_guidance_Wong_2009-002.pdf

Wiedenmann, J., M. Wilberg, E. Bochenek, J. Boreman, B. Freeman, J. Morson, E. Powell, B. Rothschild, and P. Sullivan. 2013. Evaluation of management and regulatory options for the summer flounder recreational fishery. Available at: <http://www.mafmc.org/s/A-Model-to-Evaluate-Recreational-Management-Measures.pdf>

Table 1: Currently implemented catch and landings limits for summer flounder for 2018, and Monitoring Committee recommended measures for 2019. Numbers may not add precisely due to unit conversions and rounding.

Management Measure	2018		Basis	2019 (MC Rec.)		Basis
	mil lb.	mt		mil lb.	mt	
Overfishing limit (OFL)	18.69	8,476	2016 stock assessment update projections	20.60	9,343	Updated stock projections for 2019 based on the 2016 assessment update
ABC	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
Commercial ACL	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	MC recommendation: no deduction from ACL for management uncertainty	9.18	4,166	Staff recommendation: no deduction from ACL for management uncertainty
Commercial Quota	6.63	3,006	Commercial ACT, less projected commercial discards	7.72	3,500	Commercial ACT, less projected commercial discards
Recreational ACL	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	MC recommendation; no deduction from ACL for management uncertainty	6.22	2,822	Staff recommendation: no deduction from ACL for management uncertainty
Recreational Harvest Limit	4.42	2,004	Recreational ACT, less projected recreational discards	5.15	2,334	Recreational ACT, less projected recreational discards

Table 2: Currently implemented scup catch and landings limits for 2018-2019. Numbers may not add precisely due to unit conversions and rounding.

Management Measure	2018		2019		Basis
	mil lb	mt	mil lb	mt	
OFL	45.05	20,433	41.03	18,612	Assessment projections
ABC	39.14	17,755	36.43	16,525	Assessment projections & risk policy
ABC discards	5.91	2,679	5.08	2,304	Assessment projections
Projected commercial discards	5.15	2,338	4.43	2,011	87.3% of ABC discards (avg. % of dead discards from commercial fishery, 2014-2016)
Projected recreational discards	0.75	341	0.65	293	12.7% of the ABC discards (avg. % of dead discards from rec. fishery, 2014-2016)
Commercial ACL	30.53	13,849	28.42	12,890	78% of ABC (per FMP)
Commercial ACT	28.42	12,890	28.42	12,890	2019 commercial ACL with no deduction for management uncertainty (2018 ACL set equal to 2019 ACL)
Commercial quota	23.98	10,879	23.98	10,879	Commercial ACT minus 2019 projected discards
Recreational ACL	8.61	3,906	8.01	3,636	22% of ABC (per FMP)
Recreational ACT	8.01	3,636	8.01	3,636	2019 recreational ACL with no deduction for management uncertainty (2018 ACL set equal to 2019 ACL)
RHL	7.37	3,342	7.37	3,342	Recreational ACT minus 2019 projected discards

Table 3: Currently implemented catch and landings limits for black sea bass for 2018 and SSC and Monitoring Committee recommended measures for 2019. Numbers may not add precisely due to unit conversions and rounding.

Management Measure	2018		Basis	2019		Basis
	mil lb.	mt		mil lb.	mt	
OFL	10.29	4,669	Stock assessment projections	9.18	4,163	Stock assessment projections
ABC	8.94	4,057	Stock assessment projections and Council risk policy	7.97	3,617	Stock assessment projections and Council risk policy
ABC Landings Portion	7.18	3,258	80.3% of ABC, based on average 2013–2015 landings as % of catch	6.03	2,737	75.7% of ABC, based on average 2015–2017 landings as % of catch
ABC Discards Portion	1.76	799	19.7% of ABC, based on avg. 2013–2015 discards as % of catch	1.94	880	24.3% of ABC, based on avg. 2015–2017 discards as % of catch
Projected Commercial Discards	0.83	377	47.2% of ABC discards portion, based on 2013–2015 avg. % discards by sector	1.03	446	53.0% of ABC discards portion, based on 2015–2017 avg. % discards by sector
Projected Recreational Discards	0.93	422	52.8 % of ABC discards portion, based on 2013–2015 avg. % discards by sector	0.91	414	47.0% of ABC discards portion, based on 2015–2017 avg. % discards by sector
Commercial ACL	4.35	1,974	49% of ABC landings portion (per FMP) + projected commercial discards	3.98	1,807	49% of ABC landings portion (per FMP) + projected commercial discards
Commercial ACT	4.35	1,974	Commercial ACL, with no deduction for management uncertainty	3.98	1,807	Commercial ACL, with no deduction for management uncertainty
Commercial Quota	3.52	1,596	Commercial ACT minus projected commercial discards	2.95	1,341	Commercial ACT minus projected commercial discards
Recreational ACL	4.59	2,083	51% of ABC landings portion (per FMP) + projected recreational discards	3.99	1,810	51% of ABC landings portion (per FMP) + projected recreational discards
Recreational ACT	4.59	2,083	Recreational ACL, with no deduction for management uncertainty	3.99	1,810	Recreational ACL, with no deduction for management uncertainty
RHL	3.66	1,661	Recreational ACT minus projected recreational discards	3.08	1,396	Recreational ACT minus projected recreational discards



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

June 2018

The Mid-Atlantic Fishery Management Council's (Council) Summer Flounder, Scup, and Black Sea Bass Advisory Panel (AP) met jointly with the Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass AP on June 26, 2018. Advisors reviewed Fishery Information Documents for all three species and developed the following Fishery Performance Reports. **Please note:** Advisor comments described below are not necessarily consensus or majority statements.

Council Advisory Panel members present: Carl Benson (NJ), Skip Feller (VA), James Fletcher (NC), Jeff Gutman (NJ), Mark Hodges* (VA), Greg Hueth (NJ), Ross Pearsall (RI), Michael Plaia* (CT/RI)

Commission Advisory Panel members present: Frank Blount (RI), Jeff Eutsler (MD), Mike Hall (RI), Mark Hodges* (VA), Marc Hoffman (NY), James Lovgren (NJ), Michael Plaia* (RI), James Tietje (MA), Brent Fulcher (NC; proxy for Robbie Mercer)

Others present: Julia Beaty (MAFMC Staff), Kiley Dancy (MAFMC Staff), Brandon Muffley (MAFMC Staff), Kirby Rootes-Murdy (ASMFC Staff), Caitlin Starks (ASMFC Staff), John Boreman (SSC Chair), Jessica Kuesel (ASMFC Staff), Mike Blanton (ASMFC legislative proxy for NC)

*Serves on both Council and Commission Advisory Panels.

General Comments

Recreational Data Concerns

Multiple advisors expressed frustration with the Council and Commission's use of data from the Marine Recreational Information Program (MRIP), which they see as inaccurate and fundamentally flawed. For example, one advisor said the 2016 wave 6 black sea bass harvest estimate from New York, which is widely regarded as unreasonably high, should not be used. Instead, the adjusted estimate generated by the Monitoring Committee should be used in Council and Commission documents. He also said the MRIP estimates of the number of anglers in New York is too high. One advisor said MRIP misses a significant portion of the recreational catch because their intercept samplers do not sample private docks. He said 80% of private anglers use private docks and this fishing effort is not intercepted by MRIP. Another advisor commented that more MRIP intercept staff are needed.

Multiple advisors voiced support for moving away from MRIP and towards a smart phone app to collect data from anglers. Some apps, such as the MyFishCount app, are already being used in certain capacities. One advisor said the Council should immediately implement mandatory recreational catch reporting through a smartphone app. He noted that commercial fishermen are

already required to report their catch and recreational fishermen should have the same requirements.

Multi-Year Specifications

Advisors agreed that predictability and stability in regulations is beneficial for fishermen and fishing businesses. Several advisors noted that it's very difficult to make business plans based on the current process, since catch limits and measures change year-to-year and often change within the year. Some commercial fishermen aim to spread their quotas throughout the year and for-hire captains need to plan their trips in advance. Several advisors supported implementing five-year measures, or at least three years, without modifications. It is especially challenging for fishermen to plan based on regulations that are finalized so close to the beginning of the season and are sometimes in place for less than a year, as happened recently and may happen again in 2019.

Trawl Survey Concerns

Several advisors commented on the surveys included in the assessments, and specifically, many had criticisms of the configuration of the various fishery independent trawl surveys. One advisor asked whether all surveys were conducted in the same manner, and commented that the state of Maryland coastal bay survey net was previously towing too high and was inefficient at catching summer flounder. This advisor believes that the Bigelow net also does not work as intended, and that all surveys should be corrected and done the same way up and down the coast.

Other advisors noted concerns with the Bigelow survey in recent years in terms of late survey timing or missing data. The early weeks of the survey are critical for summer flounder and in some cases in recent years, these weeks have been missed in the survey. One advisor noted that some members of the Northeast Trawl Advisory Panel (NTAP) have commented that the spring and fall surveys do not align well with the migration patterns of several species. This advisor also noted that the Bigelow net is too small for the boat. Without a cookie sweep, the net doesn't catch flatfish well. This advisor supported reviving the winter trawl survey, and noted that survey captains in a number of the different fishery dependent surveys are not fishing the nets correctly.

Research Recommendations for All Three Species

Multiple advisors recommended that the Council use a research set aside (RSA) program to fund cooperative research for all three species. They said collaborative research between industry and academia is very important and an RSA program, if done right, can be very valuable. One advisor said he did not oppose the use of RSA, but wanted to see past issues with the program addressed and added that it should not be set up so that one group of fishermen benefits more than others. One advisor said the Saltonstall-Kennedy funds should be used entirely for research and seafood promotion, as was intended.

One advisor recommended research into hook sizes and configurations with the goal of reducing recreational discard mortality.

Council and Board Member Attendance at AP Meetings

The AP emphatically requested that Council and Board members attend future AP meetings so they can hear directly from the advisors, rather than relying on meeting summaries. Some advisors

said the meeting summaries only capture a fraction of what is said and present a “sanitized” version of advisor comments.

Multiple advisors expressed frustration and disappointment that no Council members were in attendance at this meeting. One advisor said it appears like this meeting is held each year to simply check a box. Four advisors said the perception among AP members is that Council and Board members don’t truly listen to AP input. Some advisors traveled far distances or incurred substantial costs to attend this meeting (e.g. missed fishing trips, paying someone else to run a charter). Some advisors wondered if their attendance at this meeting was worth the costs.

Black Sea Bass Fishery Performance Report

Environmental/Ecological Issues

One advisor said the range of black sea bass has expanded, not simply shifted north. This is impacting other fisheries, particularly the lobster and clam fisheries, which are suffering due to black sea bass predation. He argued for an emergency increase in the black sea bass catch limits to reduce the black sea bass population and help address these ecological issues. He added that the whole ecosystem needs to be considered when developing management measures, not just a single species. He questioned whether this range expansion has been captured in the Northeast Fisheries Science Center survey data and the stock assessment.

One advisor said that weather patterns have changed, and this has impacted seasonal patterns in landings. Specifically, winters and springs have been colder. He said this should be taken into account when considering management measures.

One advisor said he’s seen three cycles of fish abundance in his lifetime. He believes these cycles are based on natural phenomena.

General Management Issues

One advisor questioned why the acceptable biological catch level is declining from 2018 to 2019 when the 2015 year class is so large. He also asked if the Council could change their risk policy to allow more black sea bass to be harvested, given that biomass is more than double the target. For example, maybe allowing for overfishing over a short period (e.g. one or a few years) could be considered acceptable when the stock biomass is so high.

Market and Economic Issues

One advisor said over time bottom trawls have accounted for a greater proportion of black sea bass landings. He said bottom trawls tend to catch bigger fish, while potters in the south tend to catch mostly the medium market category. He said dealers typically pay a higher price per pound for the bigger fish, so the shift towards trawl landings could have impacted the overall value and average price per pound.

One advisor said markets for black sea bass have been generally stable, with a few exceptions. For example, when the quota increased mid-year in 2017, landings increased late in the year and flooded the market, causing the price to drop.

Commercial Management Issues

One advisor pointed out that participation in the commercial black sea bass fishery in Maryland is limited because the state uses an individual quota system. He said the commercial landings in Ocean City, MD, as shown in the Fishery Information Document, likely include landings from bottom trawls vessels based in other states.

One advisor said the distribution of landings has been impacted by management changes. For example, fly netting south of Cape Hatteras is now limited and some fishing effort has shifted north to avoid requirements for turtle excluder devices.

One advisor said that individual transferable quota programs implemented in some states have allowed one individual to accumulate nearly 20% of the commercial black sea bass quota. This creates the potential for one individual to flood the market and cause reduced prices for other fishermen.

Recreational Management Issues

One advisor expressed frustration with the current restrictive recreational management measures, arguing that the stock was rebuilt under smaller size limits and higher bag limits than are currently in place.

One advisor noted that 2017 recreational harvest in numbers of fish was low, although catch was high and abundance is very high. He argued that managing the recreational fishery based on pounds instead of numbers of fish has created challenges as minimum fish sizes have increased therefore increasing the average weight of the fish that are harvested. This has resulted in anglers being able to keep fewer and fewer fish, even under high recreational harvest limits (RHLs). Another advisor agreed, adding that discard rates are too high and the RHL is more easily exceeded when the average weight of the fish is higher due to increased size limits.

Multiple advisors were troubled by the high discard rate in the recreational fishery. One advisor said the recreational discard mortality rate used in the stock assessment is likely an underestimate. He said the fishery should be managed with a total length limit where anglers are required to keep all fish up to a certain total cumulative length.

One advisor suggested that the private and for-hire sectors be managed with different bag limits given recent difficulties in constraining harvest to the RHL and the large contribution of the private sector to the total harvest. Another advisor expressed support for this recommendation, adding that separate bag limits for private, charter, and party vessels are working well for blueline tilefish.

One advisor said different private and for-hire boat limits would be met with some resistance. He suggested that recreational boat limits be considered, in addition to per person bag limits. This would prevent one vessel from harvesting very high amounts of fish. Massachusetts has a boat limit for scup. He suggested that higher bag limits could be allowed with mandatory reporting.

One advisor from Virginia said that the southern states don't have the diversity of fish species that Northern states have. He said black sea bass is a critical species for the for-hire industry in Virginia and a reduction in the bag limit would have a major negative impact. He added that most black sea bass in his area are caught 40-50 miles offshore.

One advisor said recent high recreational catches suggest that the stock is larger than managers think.

One advisor said non-compliance is a challenge in the recreational fishery. Anglers in some areas can fish during closed seasons with little fear of being caught.

Research Recommendations

A few advisors said the gear used in the Northeast Fisheries Science Center's bottom trawl survey, including the vessel itself, is not capable of accurately sampling the black sea bass stock, and other fish stocks.

One advisor recommended that research be conducted on why black sea bass are moving into new areas. He said it can't all be attributed to global warming and wondered if reduced cod abundances to the north and snapper/grouper abundances to the south played a role.

Summer Flounder Fishery Performance Report

General Management Issues

Regarding stock status, one advisor noted that managers need to look into the numbers, not just at numbers. For example, 2015 was a better year than what the data shows. 2015 catch was low because 2015 had a late winter. Another advisor stated that with recent large cuts in the catch limits, that should be translating to increased biomass. This advisor noted he has seen more small (likely juvenile) fish lately.

One advisor suggested that the reference points in the summer flounder stock assessment need to be addressed as soon as possible. According to the assessment, even at the all-time stock biomass high in the time series, the biomass was not close to reaching the reference point despite having a good fishery. This indicates that we're trying to obtain something that's unobtainable and that these reference points need to be revisited.

Multiple advisors expressed concerns with the fishery independent trawl surveys used in the stock assessment, as summarized above under "General Issues."

One advisor commented that his vessels frequently carry observers, and wondered whether the observer data was providing useful information and whether trends matched the trawl survey data. Two other advisors responded that observers have told them that they are only on board vessels to look for interactions with turtles. Another advisor noted that while fishing off of Barnegat Ridge, their vessel caught many smaller summer flounder, but the observers missed it because they were measuring incidental catch such as sea robins. This advisor is concerned that the large 2015 year class will not be picked up in the data.

Environmental and Ecological Issues

One advisor stated that climate change needs to be considered more thoroughly with the trawl surveys, and that the footprint of the survey needs to be expanded given that fish are moving north. Inshore areas need to be addressed, such as Nantucket Shoals and Buzzard's Bay. Climate is a huge part of what's going on with the summer flounder trends, and part of the problem is detectability. Larger fish are being seen in inshore waters now.

Another advisor noted that they have been seeing a lot of smaller fish lately (14-inch summer flounder). Vessels that used to fish the same favorite spots repeatedly now need to fish over a greater geographic area. This advisor was not sure if this was because there used to be more fish overall, or because the stock contracts under certain conditions and makes them easier to catch. It's not clear if the stock is expanding right now and that's why they are having to fish larger areas. Fishermen are reporting seeing a bigger variety of fish species, especially on the inshore grounds. Something has changed environmentally, and the fish have spread out.

Market and Economic Issues

One advisor commented that the less overlap there is between states' open seasons, the better the price is. When multiple states are open at the same time, buyers pit fish dealers against each other.

One advisor fishing on Individual Fishing Quota (IFQ) allocation in Maryland indicated that he is often making more money leasing his quota instead of fishing it. This advisor also stated that there's not enough quota up and down the coast to keep everyone going. When the fishery open, derby conditions often drive the price down. This advisor stated that it is impossible to make a living off of just the summer flounder fishery.

Research Recommendations

One advisor requested that to improve recruitment, the Council and Board investigate ocean ranching of juvenile summer flounder, and release millions of 2-inch fish. This has been done in Japan since the 1980s. This is currently illegal for fishermen to do given that it's illegal to possess summer flounder under the minimum size limit. Another advisor suggested that Research Set-Aside (RSA) could pay for these types of studies.

Several advisors supported bringing back RSA or a similar type of program, with one advisor noting that RSA funding is hugely important, and that RSA allows more industry and academia engagement in the management process. Another advisor commented that despite having a 5-year research plan, the Council has funded only four projects in the last cycle. More projects should be done, and if funding is an issue, the Council should bring back RSA. The study on reducing discard mortality of offshore black sea bass should have been a lower priority given that there are so many black sea bass out there, whereas summer flounder are in a downward spiral. The offshore black sea bass recreational fishery is limited, and this money should have been better spent.

Scup Fishery Performance Report

Market and Economic Issues

A few advisors said that scup cannot compete with tilapia for market demand. One advisor said this is largely because scup do not freeze well and can be difficult to fillet by machine. Another advisor said scup could make a great food fish for restaurants and frozen products if these problems could be overcome because scup taste good and are relatively uniform in size.

One advisor said the price per pound for scup used to be much higher, but wasn't sure why it used to be so high. He thought demand and prices in the past were too high to be due to ethnic markets alone.

Commercial Management Issues

Advisors discussed a proposal from the states of Massachusetts and Rhode Island for an increase in the incidental scup possession limit during April 15 - June 15 (or May - June) to 4,000 pounds. Currently, the incidental limit is 1,000 pounds during October-April and 200 pounds during May-September. The proposal is intended to accommodate the spring longfin squid fisheries in Massachusetts and Rhode Island.

One advisor said he supported an increase in the 200 pound limit to accommodate the squid fishery only. Another advisor supported the proposal, saying that it could help reduce discards. Another advisor supported the proposal but said the start date of April 15 seems a little too early given the migratory patterns of scup. He thought May 1 would be more appropriate. One advisor said the squid fleet is shrinking and this change could help make it easier for the remaining vessels to stay in business because they would be able to sell more scup instead of discarding them.

Recreational Management Issues

MRIP data show that most scup are harvested by anglers on private and/or rental vessels. One advisor said these data are not even close to accurate. He said the majority of scup harvest in his home state of New York comes from for-hire vessels. He estimated that about 90% of recreational scup harvest occurs on party boats. He said many party boat customers which target scup are lower income people who like to catch a lot of fish to take home to eat. Two other advisors said private boats play a bigger role in the recreational fishery in Massachusetts.

One advisor questioned why recreational discards have increased. Increased availability of small scup may have impacted commercial discards, but he hadn't seen an increase in small scup caught in the recreational fishery.

One advisor expressed support for the federal waters possession limit of 50 scup. Many states have possession limits of 30 or 45 fish. In the past, the limit was as high as 100 fish. In 2018, Massachusetts, Connecticut, Rhode Island, and New York decreased their minimum size limits from 10 inches to 9 inches. He said an increase in the bag limit would have been more beneficial than a decrease in the size limit, especially for for-hire vessels. He said anglers generally do not want to keep smaller scup.

One advisor said in the past, people would travel from other states to Rhode Island to fish for scup on for-hire boats. Now scup are abundant and easily accessible from many states, which has decreased the demand for scup trips out of Rhode Island.

One advisor said it would be beneficial if the scup and black sea bass seasons started at the same time.

Advisors discussed a proposal from the state of Massachusetts for an allowance of up to five scup as small as six inches, compared to the current recreational minimum size limit of 8 or 9 inches, depending on the state and mode. One advisor said in his home state of Massachusetts, many fishermen keep undersized scup for use as live bait for striped bass. The proposed regulation change would make this existing practice legal. He added that he thought live bait was not necessary to catch striped bass. One advisor said that if this change were implemented, it should be for all states, not just Massachusetts. Another advisor said that if the recreational fishery were managed with a total cumulative length limit, this would not be an issue.

Research Recommendations

One advisor said scup are an underutilized species and research and marketing efforts to increase demand should be encouraged (e.g. research on methods to de-bone scup).

One advisor recommend that the Council and Commission offer a \$1-2 million prize for development of a method to soften fish bones to the point that they can be consumed by humans. This would eliminate the need to de-bone fish like scup.

AP Comments on Framework and Addendum on Conservation Equivalency, Block Island Sound Transit, and Slot Limits

Conservation Equivalency

One advisor questioned how conservation equivalency for black sea bass could work with regional management. He said it was hard to imagine how measures in different regions could be compared against a coastwide standard.

Block Island Sound Transit

One advisor asked if Rhode Island could extend their state waters so there are no federal waters separating Block Island from the main land.

One advisor said the alternative which would only allow Rhode Island permit holders to transit Block Island Sound discriminates against residents of other states and is likely illegal.

Multiple advisors said the transit zone for summer flounder, scup, and black sea bass should be identical to that used for striped bass. One advisor said this is preferable to a smaller transit area (e.g. just north of Block Island) because it would reduce the likelihood that fishermen would have to go out of their way to stay in the transit zone.

One advisor noted that Block Island Sound isn't the only area where differences between state and federal measures can be an issue. In New Jersey, anglers fishing in certain areas, such as off Perth Amboy and other parts of Raritan Bay, must pass through New York state waters to return home.

Slot Limits

Multiple advisors spoke against the use of slot limits for summer flounder, scup, and/or black sea bass, as this would increase discards and discard mortality, would lead to non-compliance because anglers would not want to throw back large fish, or would have negative impacts on the stocks (e.g. due to the protogynous life history of black sea bass). One advisor said slot limits are not necessary for scup given the size of scup.

Many advisors expressed concerns about discards increasing under slot limits. One advisor noted that a slot limit would result in greater discards of larger fish, which are more likely than smaller fish to suffer discard mortality due to the greater handling time that is often required to release a larger fish and, for black sea bass, the greater potential for barotrauma. One advisor said he would prefer a prohibition on discards to a slot limit.

One advisor said he opposed options for trophy fish as this would allow continued mortality of large female summer flounder and would counteract the benefits of a slot limit.

One advisor said the current stock assessment for summer flounder is not configured in a way that can account for the reduced fishing pressure on females as a result of a slot limit.

One advisor cautioned that under low recreational harvest limits, slot limits may not be appealing to anglers because they may require very narrow slots and/or very low bag limits.

Other Comments

Two advisors recommended that the framework/addendum include an alternative for a total cumulative length limit with mandatory retention of all fish caught until the limit is met. They said this would eliminate discards, would protect the stock, and would be a simple solution to many existing problems.

AP Comments on Summer Flounder Commercial Issues Amendment

The advisors received an update on the status of the Summer Flounder Commercial Issues Amendment. Advisors were encouraged to provide comments during the public hearing process, and in addition, some advisors provided comments at this meeting, as summarized below.

Federal Moratorium Permit Requalification

One advisor noted that we've only managed fishermen, but done nothing to increase the size of the stock, such as ocean ranching done by fishermen. If ocean ranching occurred, the stock could rebound and support more fishermen. If this is not going to happen, we should just leave the permits like they are currently.

One advisor opposed taking away fishing rights from permit holders who qualified based on historical landings and are now in Confirmation of Permit History (CPH). Permit holders in CPH should have the right to re-enter the fishery if they choose. Summer flounder management occurs primarily by the states, and the states should continue to decide who's going to catch summer flounder and when. If you don't have a state permit, having a federal permit doesn't matter. We should not be cutting people out, especially at the federal level.

One advisor commented that the "scup model" allocation could cause an increase in latent effort from permit holders that currently can't fish at the state level. Right now there are hundreds of federal permits with no landings, but this could be due to boats not having state permits that provide adequate fishing opportunities. With the scup model, those permits will have greater flexibility to land in the winter periods because the quota will be managed at the coastwide level. This advisor noted that some of those latent permits may have even lied about their 1-pound qualifying landings in order to get a permit.

One advisor suggested a buyout of permits if managers want fewer people participating in the fishery. He also questioned what the concern is if people don't use their permits.

Commercial Allocation (Alternative Set 2)

One advisor stated that the supposed shift in biomass to the north is really due to shifting fishing effort patterns, with more southern vessels now fishing further north due to regulations. If there has been a shift in biomass, did not agree that New Jersey, in the middle of the coast, should be losing quota. This advisor believes that this amendment amounts to a quota grab by certain states.

Another advisor agreed, stating that if New York were in the southern region, no one would be discussing this action at all.

Another advisor did not support the concept of changing state allocations based on supposed shifts in biomass. Allocations were initially determined when fishing was open to all. Now that there are so many restrictions, fishery catch is not indicative of what could be caught by each state. Staff responded that the biomass-shift option in the document is based on trawl survey data, not fishery catch.

Another advisor supported *status quo* quotas, stating that people have invested in licenses and businesses related to this fishery. Changing allocations will affect business models and business plans. These businesses are difficult enough with constantly changing catch limits and other measures, and the fishery should be managed for maximum economic value. Under the scup model allocation, they'll be market gluts and the price will plummet.

Another advisor stated that with any reallocation, there are winners and losers, but New Jersey is consistently ending up on the losing side. Reallocation will bankrupt people in the south, including in New Jersey. The quotas are already way too low. Managers shouldn't take what people have and give it to other states, especially states that have had enforcement issues with things like RSA.

One advisor commented that he had to give up his herring permit for not having a tracking unit on his vessel, and stated that actions such as these are a push to get the small boats out of the fishery.

Several advisors expressed concerns that under the "scup model" allocation, derby fishing would be a major problem during the winter coastwide periods.

One advisor noted that the Potomac is an ideal place for stock enhancement of summer or southern flounder, and that this should be attempted before this amendment is completed. The Council and Board should be managing toward increasing weight of fishery catch.

Landings Flexibility

One advisor noted that landings flexibility is, and should continue to be, a state issue. Several states already allow it through mutual agreements, such as North Carolina and Virginia. North Carolina allows boats to retain limits for other states as long as they only offload the North Carolina limit in North Carolina. This advisor stated the landings flexibility would ruin business models, by destroying the certainty of being able to land a certain amount in a certain state. Under the scup model, vessels wouldn't be able to plan for what they could land in a given year, and the value of summer flounder during coastwide periods will tank. States should seek feedback from all permit holders on what they would like in terms of landings flexibility and transiting with multiple possession limits.



Black Sea Bass Fishery Information Document

June 2018

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for black sea bass, with an emphasis on 2017, the most recent complete fishing year.

1. Biology

Black sea bass (*Centropristis striata*) are distributed from the Gulf of Maine through the Gulf of Mexico. Genetic studies have identified three stocks within that region. Black sea bass north of Cape Hatteras, North Carolina are considered one unit stock. Adults and juveniles are mostly found on the continental shelf. Young of the year (i.e. fish less than one year old) can be found in estuaries. Adults prefer to be near structures such as rocky reefs, coral patches, cobble and rock fields, mussel beds, and shipwrecks. Adults in the mid-Atlantic show strong site fidelity during the summer and migrate to offshore wintering areas south of New Jersey when water temperatures decrease in the fall. Adults in the South Atlantic and Gulf of Mexico do not migrate during the winter.¹

Black sea bass are protogynous hermaphrodites, meaning they are born female and some later transition to males, usually around 2-5 years of age. Male black sea bass are either of the dominant or subordinate type. Dominant males are larger than subordinate males and develop a bright blue nuchal hump during the spawning season. About half of black sea bass are sexually mature by 2 or 3 years of age and about 20 cm (about 8 inches) in length. Most black sea bass greater than 19 cm (about 7.5 inches) are either in a transitional stage between female and male or have fully transitioned to the male stage. Results from a simulation model highlight the importance of subordinate males in the spawning success of sea bass. This increases the resiliency of the population to exploitation compared to other species with a more typical protogynous life history. Black sea bass reach a maximum size of about 60 cm (about 24 inches) and a maximum age of about 12 years.^{1,2}

Black sea bass in the mid-Atlantic spawn in nearshore continental shelf areas at depths of 20-50 meters. Spawning usually takes place between April and October. During the summer, adult black sea bass share complex coastal habitats with tautog, hakes, conger eel, sea robins and other migratory fish species. Essential Fish Habitat (EFH) for black sea bass consists of pelagic waters, structured habitat, rough bottom, shellfish, sand, and shell, from the Gulf of Maine through Cape Hatteras, North Carolina. Juvenile and adult black sea bass mostly feed on crustaceans, small fish, and squid. The Northeast Fisheries Science Center (NEFSC) food habits database lists spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane flounder, and monkfish as predators of black sea bass.¹

2. Status of the Stock

A benchmark stock assessment for black sea bass was peer-reviewed and approved at the 62nd Stock Assessment Review Committee (SARC 62) in December 2016. The protogynous life history, structure-orienting behavior and potential spatial stock structure of black sea bass posed challenges for prior analytical assessments of this species. The 2016 benchmark stock assessment was successful at evaluating and addressing many concerns and the greatest sources of uncertainty associated with prior stock assessments.^{3,4}

The 2016 benchmark assessment indicated that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2015, the terminal year of the assessment. Spawning stock biomass (SSB) averaged around 6 million pounds from the late 1980's and early 1990's and then steadily increased from 1997 to 2002 when it reached 18.7 million pounds. SSB then declined until 2007 (8.9 million pounds), followed by a steady increase through 2015 with SSB at its highest estimated level (Figure 1). The model-estimated SSB in 2015 was 48.89 million pounds (22,176 mt), 2.3 times SSB at maximum sustainable yield, $SSB_{MSY} = 21.31$ million pounds (9,667 mt).⁴

The fishing mortality rate (F) in 2015 was 0.27, below the fishing mortality threshold reference point ($F_{MSY\ proxy} = F40\%$) of 0.36 (Figure 2). Fishing mortality was very high in the early 1990's, typically greater than 1.0, but declined and stabilized after 1997 once joint management by the Mid-Atlantic Fisheries Management Council (Council) and Atlantic States Marine Fisheries Commission (Commission) began. Fishing mortality was below the $F_{MSY\ proxy}$ reference point during 2011-2015. Model estimated recruitment was relatively constant throughout the time series except for large peaks from the 1999 and 2011 year classes (i.e. fish spawned in those years). Average recruitment of age 1 black sea bass from 1989 – 2015 was 24.3 million fish. The 1999 year class was estimated at 37.3 million fish and the 2011 year class was estimated at 68.9 million fish.⁴ Catches in many state surveys, with the exception of New Jersey and Virginia, as well as the 2017 NEFSC bottom trawl survey, suggest that the 2015 year class is also above average.⁵

A data update with catch, landings, and fishery independent survey information through 2017, including recent estimates of commercial and recreational fishery catch and fishery independent indices, will be provided by the NEFSC by July 2018.

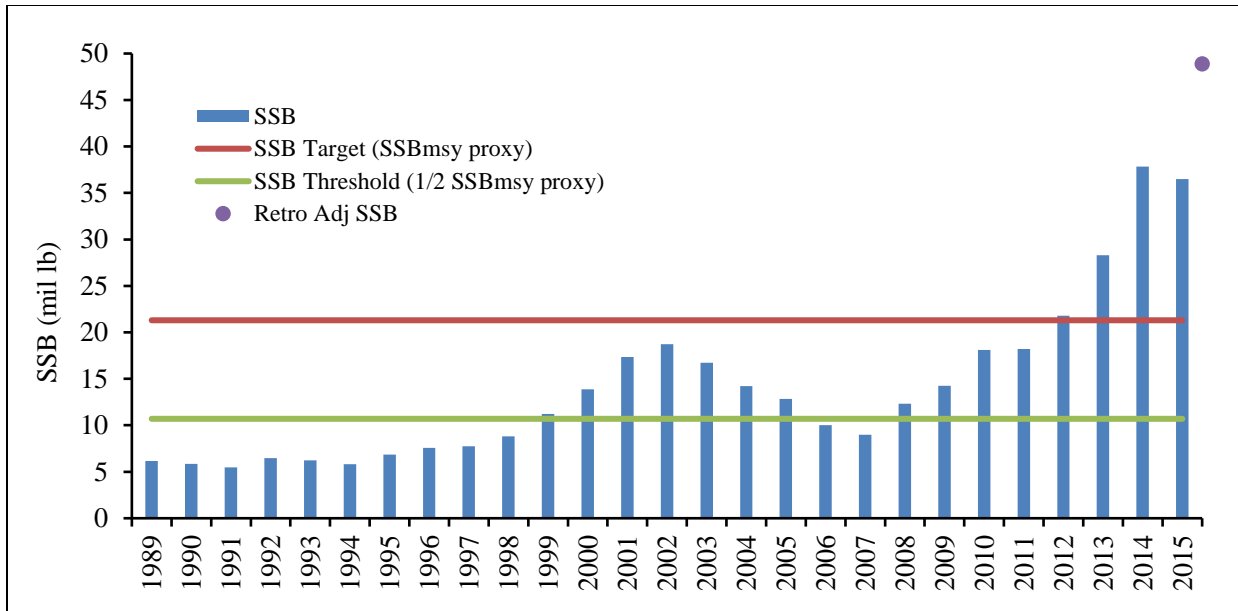


Figure 1: Spawning stock biomass of black sea bass, 1989 - 2015, and biomass reference points from the 2016 benchmark stock assessment. The 2015 retro-adjusted spawning stock biomass value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points.⁴

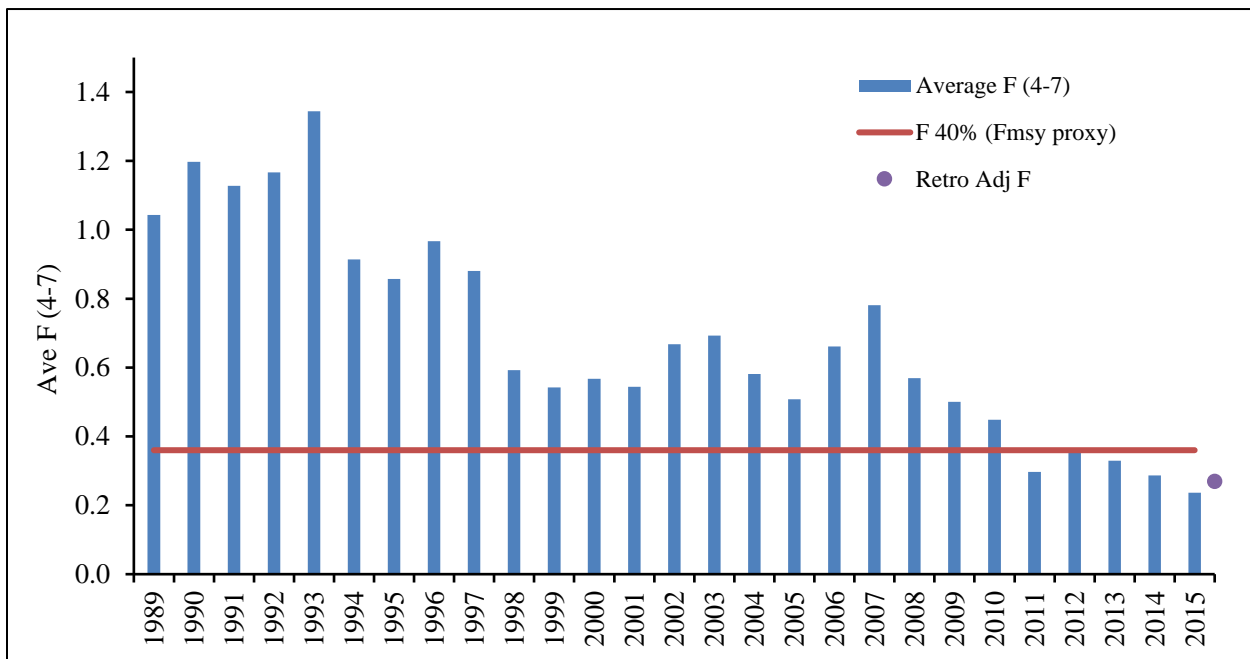


Figure 2: Fishing mortality rate on black sea bass ages 4-7 and the F_{MSY} PROXY reference point from the 2016 benchmark stock assessment. The 2015 retro-adjusted fishing mortality rate value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points.⁴

3. Management System and Overall Fishery Performance

The Council and the Commission work cooperatively to develop fishery regulations for black sea bass from Maine through Cape Hatteras, North Carolina. 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 waters (0-3 miles offshore) and federal waters (3-200 miles offshore, also known as the Exclusive Economic Zone or EEZ). The management unit for black sea bass includes U.S. waters from Cape Hatteras, North Carolina to the U.S.-Canadian border.

The Council has managed black sea bass since 1997 when it amended the Summer Flounder and Scup Fishery Management Plan (FMP) to include black sea bass. The original FMP and subsequent amendments and frameworks are available at: www.mafmc.org/fisheries/fmp/sf-s-bsb.

Commercial and recreational black sea bass fisheries are managed using catch and landings limits, commercial quotas, recreational harvest limits, minimum fish sizes, gear regulations, permit requirements, and other provisions. The Council allocates 49% of the total allowable landings to the commercial fishery as a commercial quota and 51% of allowable landings to the recreational fishery as a recreational harvest limit (RHL).

The Council's Scientific and Statistical Committee recommends annual Acceptable Biological Catch (ABC) levels for black sea bass, 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 allocations 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 RHL are landing limits.

Table 1 shows black sea bass catch and landings limits from 2008 through 2018, as well as commercial and recreational landings through 2017. Total black sea bass landings (commercial and recreational) peaked in 1986, when approximately 15.8 million pounds of black sea bass were landed. About 8.15 million pounds of black sea bass were landed by commercial and recreational fishermen from Maine through Cape Hatteras, North Carolina in 2017 (Figure 3).^{6,7}

Table 1: Summary of catch and landings limits, and landings for commercial and recreational black sea bass fisheries from Maine through Cape Hatteras, NC 2008 through 2018.

Management measures	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ABC (mil. lb)	--	--	4.50	4.50	4.50	5.50	5.50	5.50	6.67	10.47	8.94
Commercial ACL (mil. lb)	--	--	--	--	1.98	2.60	2.60	2.60	3.15	5.09	4.35
Commercial quota (mil. lb) ^a	2.03	1.09	1.76	1.71	1.71	2.17	2.17	2.21	2.71	4.12	3.52
Commercial landings (mil. lb)	1.93	1.18	1.68	1.69	1.72	2.26	2.18	2.29	2.59	3.99	--
% of commercial quota landed	95%	108%	95%	99%	101%	104%	100%	104%	96%	97%	--
Recreational ACL (mil. lb)	--	--	--	--	1.86	2.90	2.90	2.90	3.52	5.38	4.59
RHL (mil. lb) ^a	2.11	1.14	1.83	1.78	1.32	2.26	2.26	2.33	2.82	4.29	3.66
Recreational landings (mil. lb)	2.03	2.56	3.19	1.17	3.19	2.46	3.60	3.79	5.19	4.16	--
% of RHL harvested	96%	225%	174%	66%	242%	109%	159%	163%	184%	97%	--

^a Commercial quotas and RHLs reflect the removal of projected discards from the sector-specific ACLs. For 2006-2014, these limits are also adjusted for Research Set Aside.

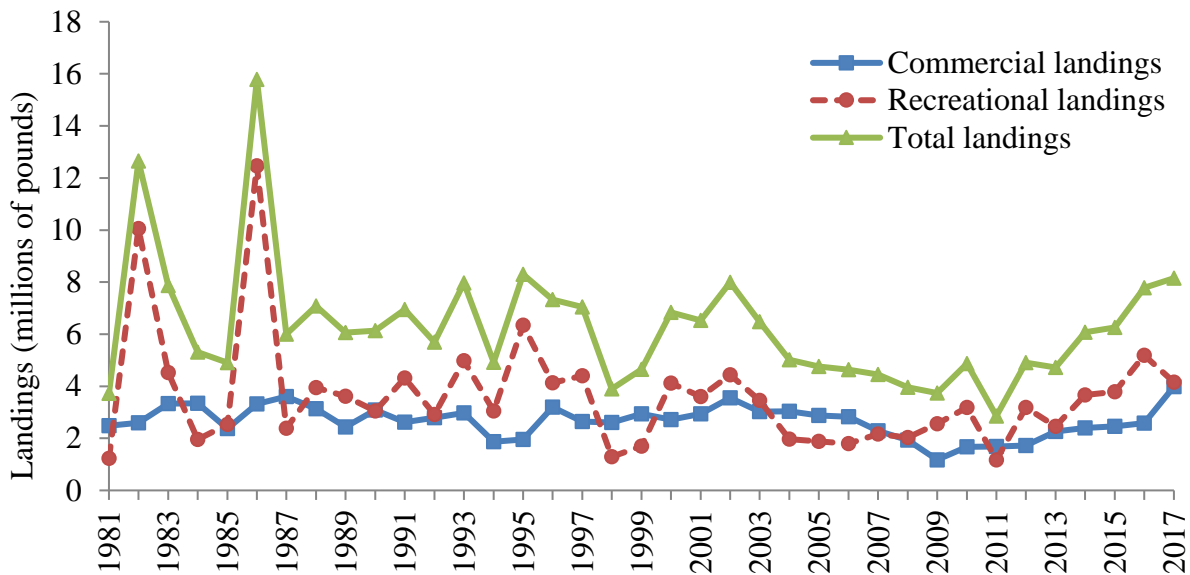


Figure 3: Commercial and recreational black sea bass landings in millions of pounds from Maine through Cape Hatteras, North Carolina, 1981-2017.^{6,7} Recreational landings prior to 2004 include all North Carolina landings.

4. Commercial Black Sea Bass Measures and Fishery Performance

Commercial landings of black sea bass peaked in 2017 at 3.99 million pounds, and reached a low of 1.18 million pounds in 2009 (Figure 3). The 3.99 million pounds of black sea bass landed in 2017 corresponded to approximately 97% of the commercial.⁷

A moratorium permit is required to fish commercially for black sea bass in federal waters. In 2017, 679 federal commercial black sea bass permits were issued.⁸

The minimum commercial size limit for black sea bass of 11 inches total length has been in place since 2002. The Commission divides the commercial quota among states based on the allocation percentages in Table 2. States set measures to achieve their state-specific commercial quotas.

Vessel Trip Report (VTR) data for 2017 indicate that 73% of the black sea bass caught by federal commercial permit holders from Maine to North Carolina was caught with bottom otter trawl gear. About 16% were caught with fish pots and traps, 5% in offshore lobster traps, and 4% with hand lines. Other gear types accounted for just over 1% each of total commercial catch.⁹

Any federally-permitted vessel which uses otter trawl gear and catches more than 500 pounds of black sea bass from January through March, or more than 100 pounds from April through December, must use nets with a minimum mesh size of 4.5-inch diamond mesh applied throughout the codend for at least 75 continuous meshes forward of the end of the net. Pots and traps used to commercially harvest black sea bass must have two escape vents with degradable hinges in the section known as the parlor. The escape vents must measure 1.375 inches by 5.75 inches if rectangular, 2 inches by 2 inches if square, or have a diameter of 2.5 inches if circular.

According to VTR data, statistical area 616 was responsible for the largest percentage of commercial black sea bass catch (landings and discards) in 2017 (Table 3, Figure 4). Statistical area 539 accounted for only 5% of 2017 catch, but had the highest number of trips that caught black sea bass (2,148 trips), accounting for 19% of all trips.⁹

Total black sea bass ex-vessel value (adjusted to 2017 dollars to account for inflation) from Maine to North Carolina ranged from a low of \$3.48 million in 1994 to a high in 2017 with an ex-vessel value of \$12.24 million. Black sea bass reached its lowest adjusted average annual price per pound in 1996, at \$1.73 (\$1.14 in 2017 dollars), and its highest adjusted average annual price per pound in 2016, at \$3.73 (in 2017 dollars; Figure 5).⁷

In 2017, 3.99 million pounds of black sea bass were landed in the commercial fishery, generating \$12.24 million in revenues at an average price of \$3.07 per pound (Figure 5). Landings and ex-vessel value increased from 2016, while the price per pound decreased from 2016.⁷

At least 100,000 pounds of black sea bass were landed in each of nine ports in seven states from Maine through North Carolina in 2017. These nine ports accounted for approximately 65% of all commercial black sea bass landings in 2017 (Table 4).⁷ Detailed community profiles developed by the NEFSC Social Science Branch can be found at www.mafmc.org/communities/.

A total of 204 federally-permitted dealers from Maine through North Carolina purchased black sea bass in 2017. More dealers bought black sea bass in New York than in any other state (Table 5).⁶

Table 2: Allocation of commercial black sea bass quota among states established in the Commission’s FMP.

State	Allocation (percent)
Maine	0.5
New Hampshire	0.5
Massachusetts	13.0
Rhode Island	11.0
Connecticut	1.0
New York	7.0
New Jersey	20.0
Delaware	5.0
Maryland	11.0
Virginia	20.0
North Carolina	11.0
Total	100

Table 3: Statistical areas that accounted for at least 5% of the total commercial black sea bass catch in 2017, with associated number of trips.⁹

Statistical Area	Percent of 2016 Commercial Black Sea Bass Catch	Number of Trips
616	35%	677
613	12%	1,205
615	9%	211
537	8%	1,081
621	8%	353
612	7%	696
539	5%	2,148

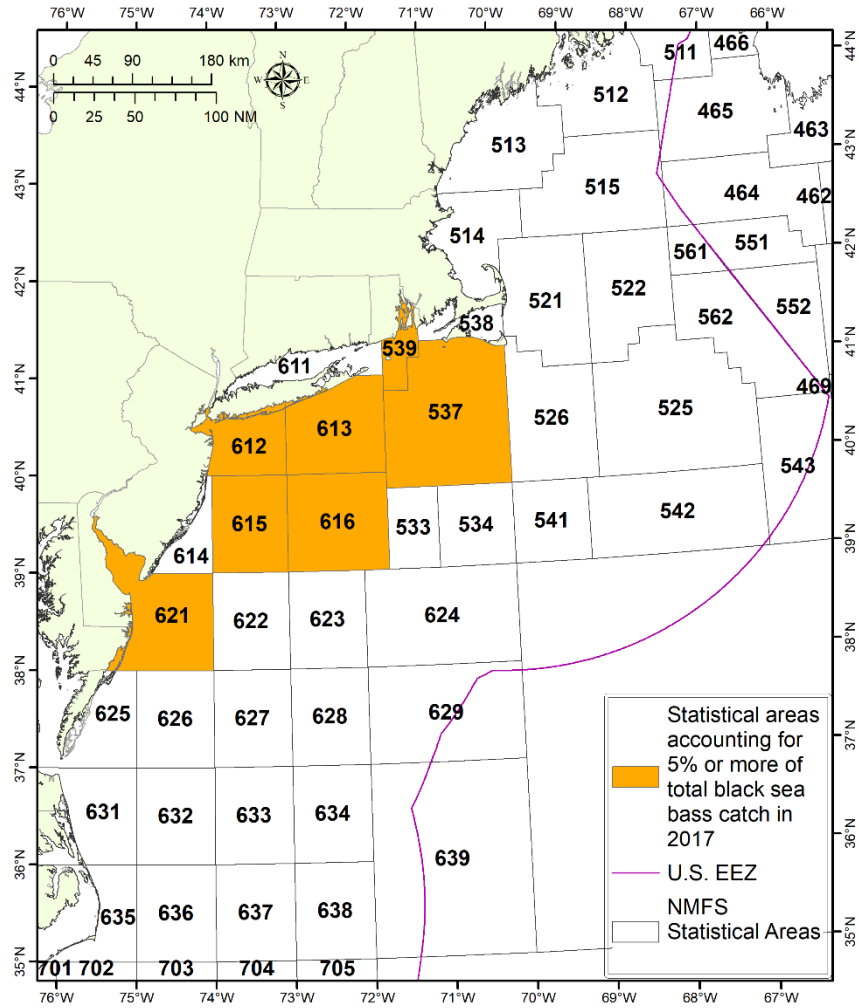


Figure 4: NMFS Statistical Areas, highlighting those that each accounted for more than 5% of the commercial black sea bass catch in 2017.⁹

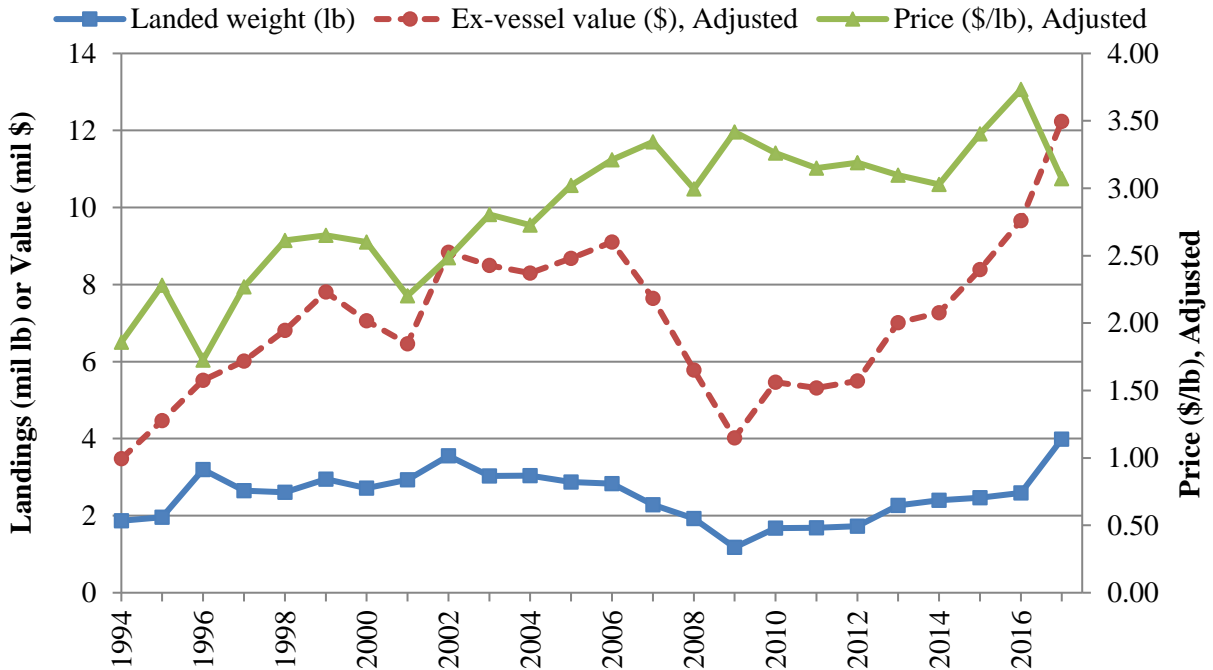


Figure 5: Landings, ex-vessel value, and price for black sea bass, from Maine through North Carolina, 1994-2017. Ex-vessel value and price are adjusted to real 2017 dollars.⁷

Table 4: Ports reporting at least 100,000 pounds of black sea bass landings in 2017 and associated number of vessels and percentage of total commercial landings.⁷

Port name	Pounds of black sea bass landed	% of total commercial black sea bass landed	Number of vessels landing black sea bass
PT. PLEASANT, NJ	590,917	14.8	48
HAMPTON, VA	398,221	10.0	38
POINT JUDITH, RI	344,849	8.7	148
OCEAN CITY, MD	332,940	8.4	8
BEAUFORT, NC	219,199	5.5	51
CHINCOTEAGUE, VA	203,888	5.1	9
NEW BEDFORD, MA	198,447	5.0	58
CAPE MAY, NJ	168,011	4.2	29
MONTAUK, NY	152,969	3.8	104

Table 5: Dealers, by state, which reported purchases of black sea bass in 2017.⁷

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of dealers	29	29	14	45	33	4	6	16	28

5. Recreational Black Sea Bass Measures and Fishery Performance

Black sea bass support a sizable recreational fishery in the Mid-Atlantic region. Most recreational black sea bass landings occur in state waters when the fish migrate inshore during the summer months.

The Council develops coast-wide regulations for the recreational black sea bass fishery in federal waters, including a minimum size, a possession limit, and open seasons (Table 6). The Commission and member states develop recreational measures in state waters (Table 7 and Table 8).

Between 1981 and 2017, recreational catch and harvest were highest in 1986, when an estimated 29.17 million black sea bass were caught and 21.90 million black sea bass (about 12.46 million pounds) were harvested from Maine through North Carolina. Recreational catch reached a low of 3.43 million fish in 1984. Recreational harvest was lowest in 2011, when 0.82 million fish (about 1.17 million pounds) were landed from Maine through Cape Hatteras, North Carolina (Table 9). In 2017, an estimated 2.21 million black sea bass, at about 4.16 million pounds and approximately 97% of the 2017 RHL, were harvested by recreational anglers from Maine through Cape Hatteras, North Carolina (Table 1).⁵

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2017, 814 party and charter boats held federal recreational black sea bass permits, an increase from the 749 party/charter permits issued in 2016. Many of these vessels also hold recreational permits for summer flounder and scup.⁸

In 2017, about 50% of black sea bass landed by recreational fishermen were caught in state waters, and about 50% in federal waters (Table 10). Most landings occurred in New Jersey, New York, and Connecticut. These three states accounted for about 72% of all recreational harvest from Maine to Cape Hatteras, North Carolina in 2017 (Table 11).⁵

About 78% of recreational black sea bass landings in 2017 were caught by anglers fishing on private or rental boats, about 21% from anglers aboard party or charter boats, and 1% from shore (Table 12).⁶

Table 6: Federal recreational measures for black sea bass, north of Cape Hatteras, NC, 2007 through 2018.

Measure	2007-2008	2009	2010-2011	2012	2013	2014	2015-2017	2018
Min. size (inches, total length)	12	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Possession limit	25	25	25	25	20	15	15	15
Open season	1/1-12/31	1/1-10/5	5/22-10/11 and 11/1-12/31	5/19-10/14 and 11/1-12/31	5/19-10/14 and 11/1-12/31	5/19-9/18 and 10/18-12/31	5/15-9/21 and 10/22-12/31	5/15-12/31

Table 7: State waters black sea bass recreational fishing measures in 2017.

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 21; October 18-December 31
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	15	5 fish	May 21 - August 31
Rhode Island	15	3 fish	May 25-August 31
		7 fish	September 1-21; October 22-December 31
Connecticut (Private & Shore)	15	5 fish	May 1-December 31
Connecticut Authorized Party/Charter Vessels		8 fish	May 1-December 31
New York	15	3 fish	June 27-August 31
		8 fish	September 1-October 31
		10 fish	November 1-December 31
New Jersey	12.5	10 fish	May 26-June 18
		2 fish	July 1-August 31
		15 fish	October 22-December 31
Delaware, Maryland, Virginia, and North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31

Table 8: State waters black sea bass recreational fishing measures in 2018.

State	Minimum Size (inches)	Possession Limit	Open Season
Maine	13	10 fish	May 19-September 21; October 18-December 31
New Hampshire	13	10 fish	January 1-December 31
Massachusetts	15	5 fish	May 19-September 12
Rhode Island	15	3 fish	June 24 - August 31
		7 fish	September 1 - December 31
Connecticut (Private & Shore)	15	5 fish	May 19-December 31
Connecticut Authorized Party/Charter Vessels	15	5 fish	May 19-August 31
		7 fish	September 1-December 31
New York*	15	3 fish	June 23-August 31
		7 fish	September 1-December 31
New Jersey	12.5	10 fish	May 15-June 22
	12.5	2 fish	July 1-August 31
	12.5	10 fish	October 8 - October 31
	13	5 fish	November 1 - December 31
Delaware, Maryland, Virginia, and North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-December 31

*New York is in the process of promulgating its measures, which should be finalized in June.

Table 9: Estimated recreational black sea bass catch and harvest from 1981 through 2017. Values from 2004 through 2017 are for Maine through Cape Hatteras, North Carolina. Values prior to 2004 include all of North Carolina.⁶

Year	Catch (Millions of fish)	Harvest (Millions of fish)	Harvest (Millions of pounds)	% of catch retained
1981	5.30	2.73	1.23	52%
1982	11.62	10.25	10.05	88%
1983	8.71	5.63	4.53	65%
1984	4.33	2.49	1.96	58%
1985	7.13	4.22	2.54	59%
1986	29.17	21.90	12.46	75%
1987	5.91	3.47	2.39	59%
1988	9.36	4.06	3.94	43%
1989	7.00	4.65	3.62	66%
1990	9.62	4.27	3.05	44%
1991	11.22	5.46	4.32	49%
1992	8.30	3.87	2.91	47%
1993	9.45	6.20	4.98	66%
1994	7.69	3.57	3.05	46%
1995	14.48	6.89	6.34	48%
1996	8.44	3.76	4.13	45%
1997	11.09	4.87	4.40	44%
1998	5.70	1.26	1.29	22%
1999	7.76	1.41	1.70	18%
2000	17.67	3.76	4.12	21%
2001	14.63	3.01	3.60	21%
2002	15.08	3.42	4.44	23%
2003	12.65	3.39	3.45	27%
2004	7.24	1.53	1.97	21%
2005	7.04	1.26	1.88	18%
2006	7.60	1.29	1.80	17%
2007	8.73	1.53	2.17	18%
2008	10.65	1.29	2.03	12%
2009	9.22	1.81	2.56	20%
2010	9.96	2.21	3.19	22%
2011	4.74	0.82	1.17	17%
2012	12.54	1.87	3.18	15%
2013	9.81	1.28	2.46	13%
2014	10.87	2.12	3.67	19%
2015	9.43	2.21	3.79	23%
2016	14.14	2.54	5.19	18%
2017	15.03	2.21	4.16	15%

Table 10: Estimated percentage of black sea bass recreational landings (in numbers of fish) in state and federal waters, from Maine through North Carolina, 2008 through 2017.⁶

Year	State waters	Federal waters
2008	60.3%	39.7%
2009	67.5%	32.5%
2010	72.1%	27.9%
2011	63.8%	36.2%
2012	72.6%	27.4%
2013	66.6%	33.4%
2014	62.5%	37.5%
2015	67.3%	32.7%
2016	64.6%	35.4%
2017	50.0%	50.0%
2008-2017 average	64.7%	35.3%
2015-2017 average	60.6%	39.4%

Table 11: State-by-state contribution (as a percentage) to total recreational harvest of black sea bass (in number of fish), Maine through Cape Hatteras, North Carolina, in 2016 and 2017.⁶

State	2016	2017
Maine	0.0%	0.0%
New Hampshire	0.0%	0.0%
Massachusetts	15.4%	10.6%
Rhode Island	10.0%	8.7%
Connecticut	17.1%	17.9%
New York	40.6%	16.3%
New Jersey	11.6%	38.1%
Delaware	1.0%	2.7%
Maryland	3.1%	3.3%
Virginia	1.1%	1.7%
North Carolina	0.0%	0.8%

Table 12: The number of black sea bass landed (in numbers of fish) by recreational fishing mode, Maine through North Carolina, 1989-2017.⁶

Year	Shore	Party/charter	Private/rental
1989	5.12%	42.84%	52.04%
1990	6.78%	53.15%	40.07%
1991	4.59%	47.38%	48.03%
1992	1.17%	52.81%	46.02%
1993	0.88%	73.91%	25.21%
1994	6.81%	56.17%	37.01%
1995	4.01%	75.47%	20.53%
1996	1.87%	69.91%	28.21%
1997	0.17%	81.16%	18.67%
1998	0.56%	61.78%	37.65%
1999	1.36%	44.01%	54.63%
2000	4.73%	47.87%	47.40%
2001	0.47%	60.78%	38.76%
2002	0.49%	60.39%	39.12%
2003	0.32%	61.11%	38.57%
2004	0.49%	36.28%	63.23%
2005	0.88%	40.71%	58.41%
2006	3.52%	52.48%	44.00%
2007	0.61%	55.83%	43.56%
2008	0.70%	35.75%	63.55%
2009	1.26%	23.16%	75.58%
2010	0.26%	22.25%	77.49%
2011	0.93%	35.29%	63.78%
2012	0.33%	36.06%	63.60%
2013	0.93%	20.84%	78.24%
2014	0.92%	35.85%	63.24%
2015	0.14%	41.01%	58.84%
2016	2.74%	18.29%	78.97%
2017	0.88%	21.30%	77.82%
2015-2017 average	1.25%	26.87%	71.88%

References

- ¹ Drohan, A.F., J. P. Manderson, D. B. Packer. 2007. Essential fish habitat source document: black sea bass, *Centropristis striata*, life history and habitat characteristics, 2nd edition. NOAA Technical Memorandum NMFS NE 200; 68 p.
- ² Blaylock, J. and G.R. Shepherd. 2016. Evaluating the vulnerability of an atypical protogynous hermaphrodite to fishery exploitation: results from a population model for black sea bass (*Centropristis striata*). Fishery Bulletin 114(4): 476-489.
- ³ 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Summary Report at <http://www.nefsc.noaa.gov/publications/crd/crd1701/crd1701.pdf>.
- ⁴ Northeast Fisheries Science Center. 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Report. US Dept. Commerce., Northeast Fish Sci Cent Ref Doc. 17-03; 822 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at <http://nefsc.noaa.gov/publications/>.
- ⁵ Northeast Fisheries Science Center. 2017. Black Sea Bass 2016 Catch and Survey Information for Stock North of Cape Hatteras, NC. Report to the Mid-Atlantic Science and Statistical Committee. Available at: <http://www.mafmc.org/ssc-meetings/2017/july-19-20>
- ⁶ Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed May 15, 2017. Available at: <http://www.st.nmfs.noaa.gov/recreational-fisheries/index>.
- ⁷ Unpublished NMFS dealer data.
- ⁸ Unpublished NMFS permit data.
- ⁹ Unpublished NMFS Vessel Trip Report (VTR) data.

Black Sea Bass 2017 Catch and Survey Information for Stock North of Cape Hatteras, NC

Report to the Mid-Atlantic Science and Statistical Committee

NOAA Fisheries Service
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA
July, 2018



Introduction

The 2016 Black Sea Bass stock assessment (NEFSC 2017) was conducted for two geographic regions, split roughly north and south along the Hudson Canyon, then combined for determining final stock status. The information in this data update has been provided by region where possible. The increase in quota instituted following the assessment is reflected in both the commercial and recreational fisheries. The strong 2011 cohort identified in the assessment remains a dominant year class in the fisheries and surveys in the northern region. The 2015 cohort appears to be above average in both the northern and southern surveys, as well as fishery discards.

Commercial Landings

Black sea bass landings in 2017 were 1,761 mt, predominately from otter trawls and fish pots (Tables 1 and 2), an increase from 1,133 mt in 2016. The majority of landings were reported from the Mid-Atlantic statistical areas between New York and Delaware and were the highest in the time series beginning in 1982. Landings size composition differed between trawl and pot gears (Figure 1) and overall was dominated by the 2011 cohort (Figure 3).

Table 1. 2017 commercial Black Sea Bass landings (mt) by market category and region.

	unclassified	jumbo	large	medium	small	Grand Total
North	130.3	631.3	541.6	76.7	10.3	1,390.3
South	21.3	107.8	103.1	120.6	18.1	370.8
Grand Total	42.0	411.7	459.4	194.5	25.8	1,761.1

Table 2. 2017 commercial Black Sea Bass landings (mt) by gear type, and region.

	Handline	Trawl	Pot	Other	Total
North	195.1	948.1	194.8	52.3	1390.3
South	17.2	152.7	193.3	7.6	370.8
Total	212.3	1100.8	388.1	59.9	1761.1
North %	11.1%	53.8%	11.1%	3.0%	
South %	1.0%	8.7%	11.0%	0.4%	
	12.1%	62.5%	22.0%	3.4%	

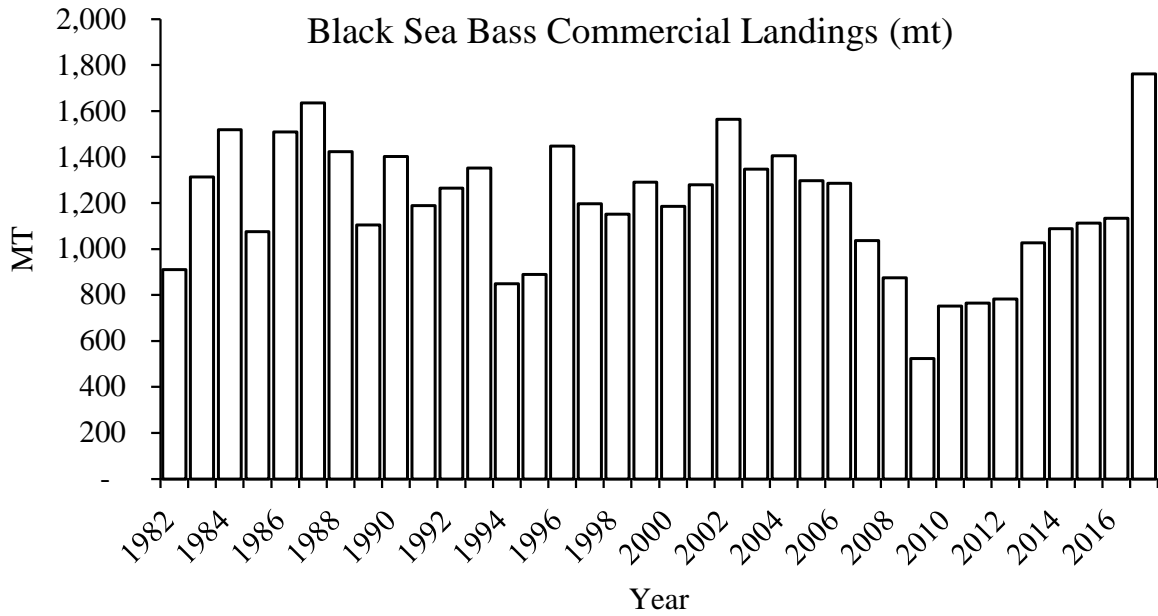


Figure 1. Total commercial landings (mt) for Black Sea Bass stock north of Cape Hatteras, NC, 1982-2017.

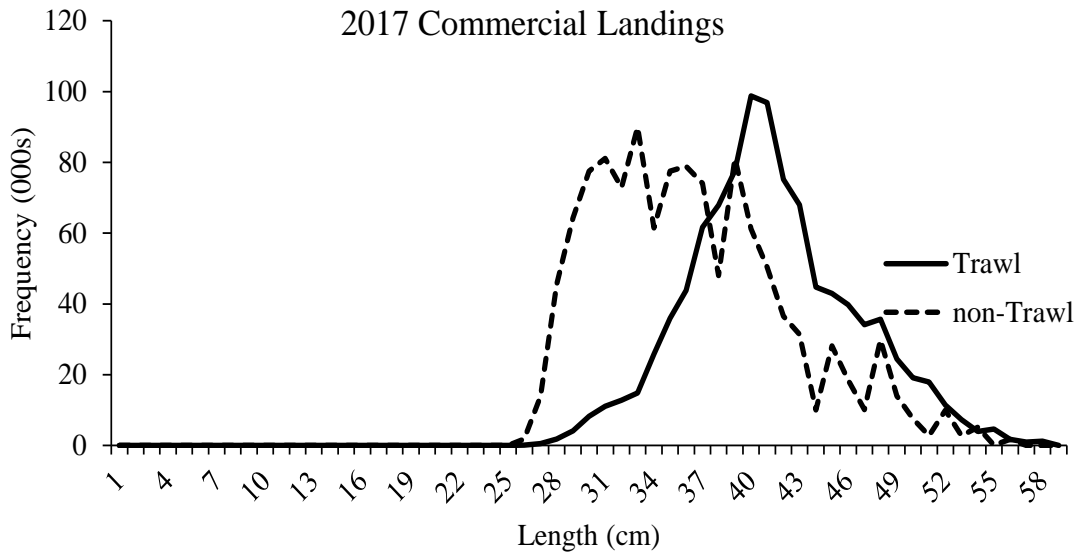


Figure 2. Length (cm) frequency of 2017 Black Sea Bass commercial landings by gear category.

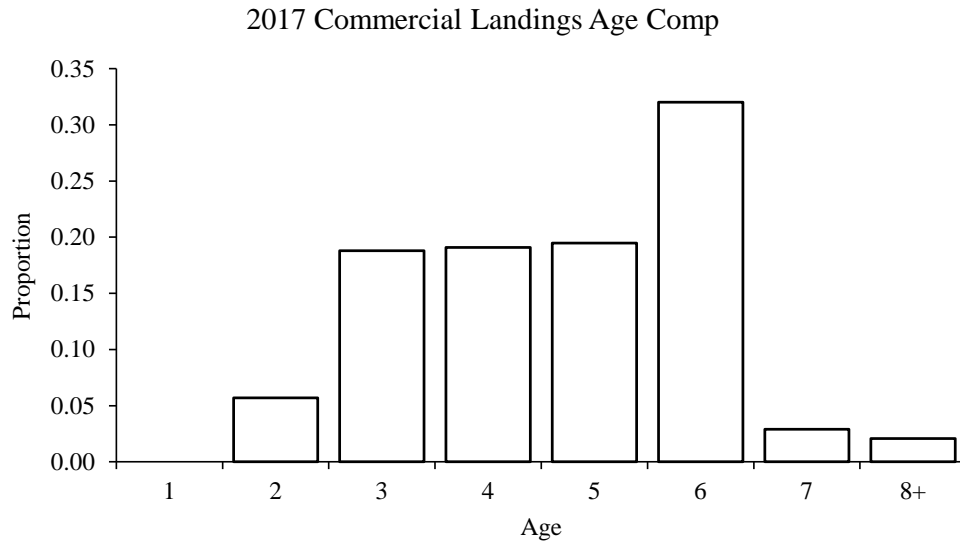


Figure 3. Age composition of 2017 commercial Black Sea Bass landings.

Commercial Discards

Commercial discards from otter trawls were estimated from Northeast Fisheries Observer trips discard to kept all ratios (Table 3). All other gears were estimated from discarded sea bass recorded in Vessel Trip Reports by gear and are likely underestimates. Observer coverage of pot fisheries in the southern region has increased in 2017, allowing more accurate estimates of discards. Initial results suggest that dead discards from pot fisheries are on the order of 709 mt rather than 2.1 mt. Discard mortality rates same as used in previous assessment with 100% from trawls and gillnets and 15% for pots and hand lines. The commercial discards were dominated by the 2015 cohort in both the northern and southern regions (Figure 4).

Table 3. Commercial Black Sea Bass discards (mt) by gear and region from 2017.

2017	Source	NEGEAR	MT
NORTH	OBS	Otter trawl	224.1
	VTR	Handline	5.2
	VTR	Fish pots	7.0
	VTR	Other pots	1.4
SOUTH	OBS	Otter trawl	560.1
	OBS	Gillnet	5.8
	VTR	Handline	0.3
	VTR	Fish pots	1.7
	VTR	Other pots	0.3
TOTAL			805.9

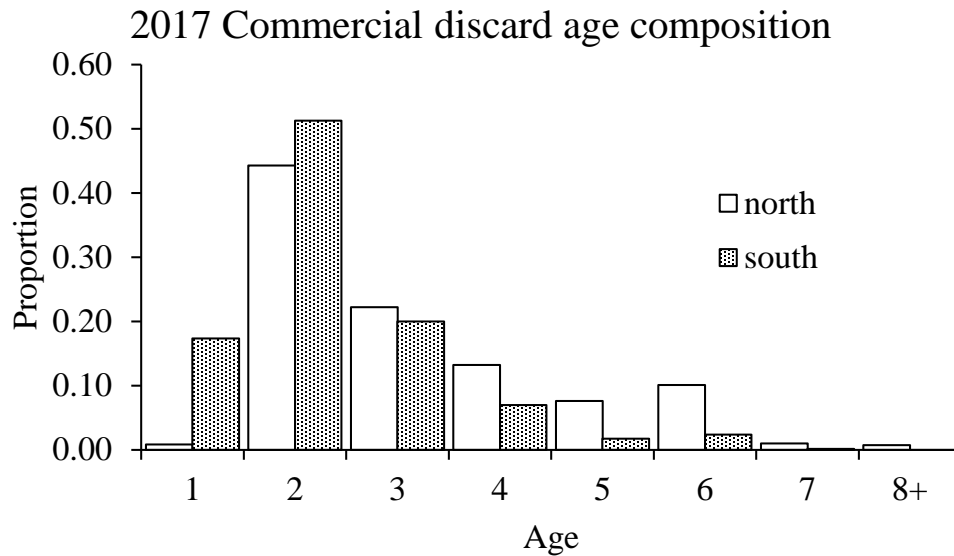


Figure 4. Age composition of 2017 commercial Black Sea Bass discards.

Recreational Fishery

Recreational landings in 2017 for Maine through Cape Hatteras, NC were 2.206 million fish equal to 2,042 mt. Total discards (B2 only) were 12.862 million fish. Assuming a discard mortality rate of 15%, discard losses equal 1.929 million fish and 576 mt. Black sea bass catch from vessel trip reports for January-February party/charter vessels was negligible. Recreational catch split into North and South regions as used in the assessment show the majority of the landings and discards occurred in the north (NY and north as a proxy for north of Hudson Canyon). Length compositions differed by region due to differences in minimum size regulations (Figures 5 and 7). The 2011 cohort was only dominant in the landings within the northern region (Figure 6) whereas the 2015 cohort dominated discards in both regions (Figure 8).

Table 4. 2017 Recreational Black Sea Bass catch (number in 000s and MT) by year. A mortality rate of 15% applied to live discards (B2).

	Number (000s)	MT
North AB1	1,206.2	1,411.2
North B2*0.15	1,203.4	410.3
South AB1	999.7	631.0
South B2*0.15	725.8	165.7
Total	4,135.1	2,618.2

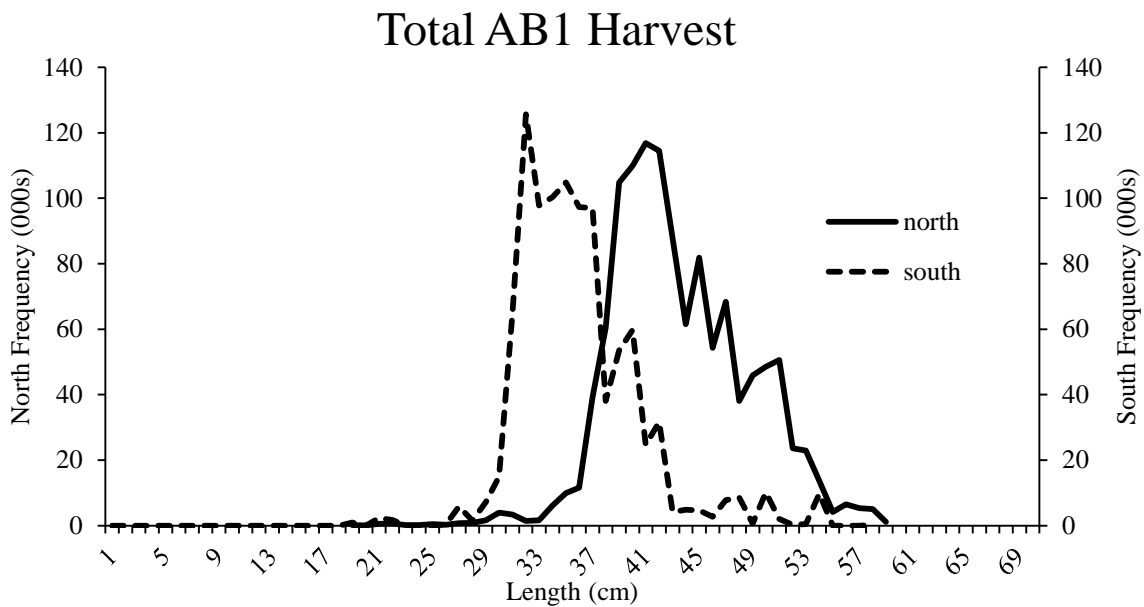


Figure 5. Length frequency (TL cm) of 2017 Black Sea Bass recreational harvest (AB1), by region (Cape Hatteras, NC –NJ, NY-ME). Note that minimum sizes south of New Jersey are 12” (30.5 cm).

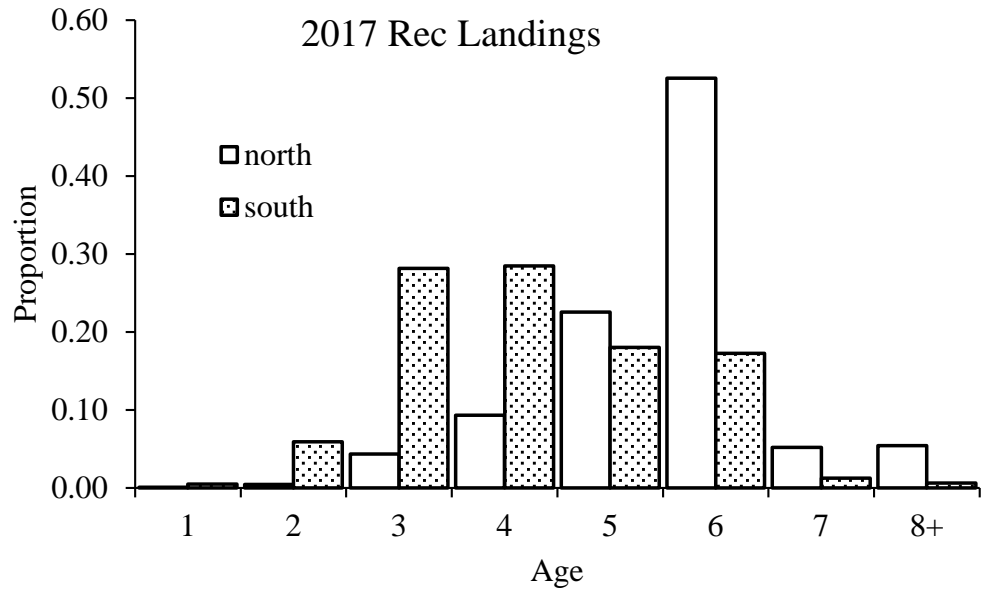


Figure 6 . Age composition of Black Sea Bass recreational landings (AB1) by region.

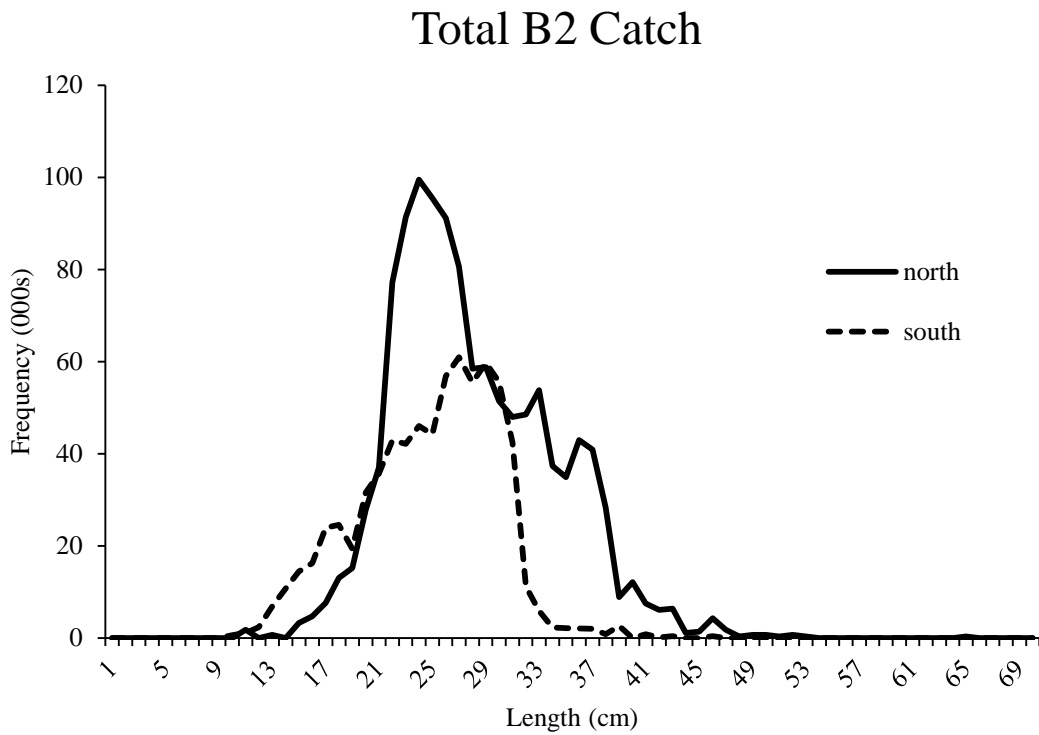


Figure 7. Length frequency (TL cm) of 2017 Black Sea Bass recreational discards (B2*15%), by region (Cape Hatteras, NC-NJ, NY-ME).

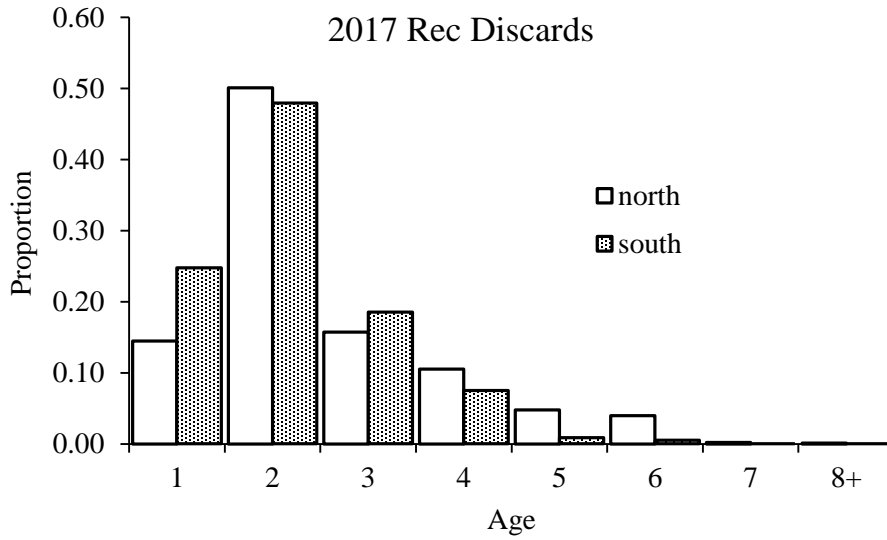


Figure 8. Age composition of Black Sea Bass recreational discards (B2) by region.

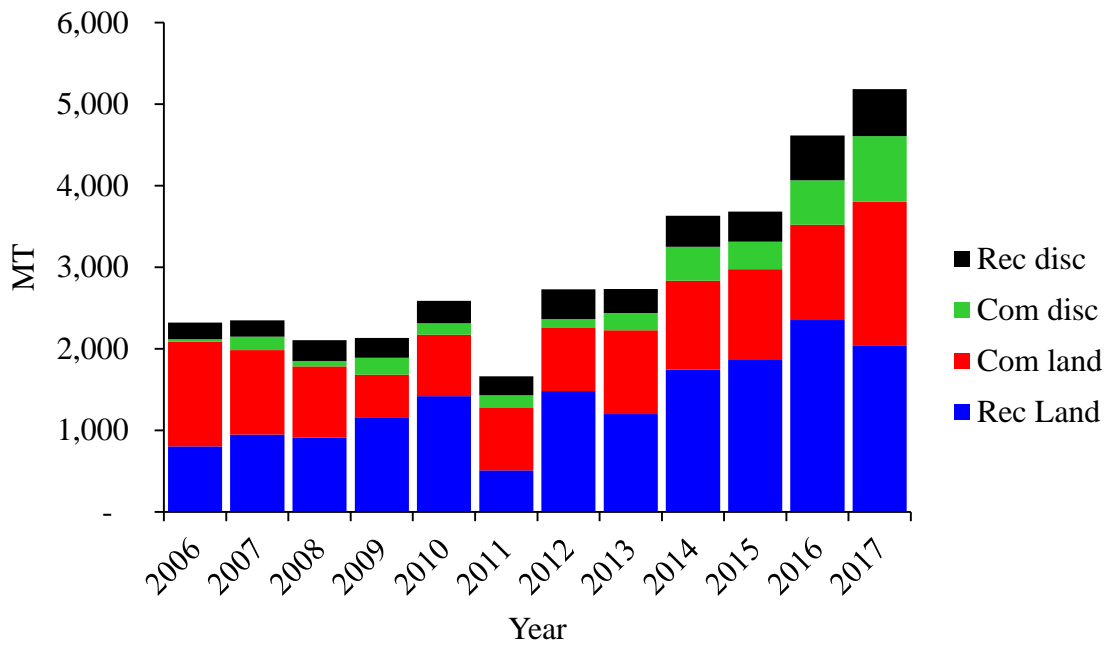


Figure 9. Black Sea Bass catch, Maine to Cape Hatteras, North Carolina 2006-2017.

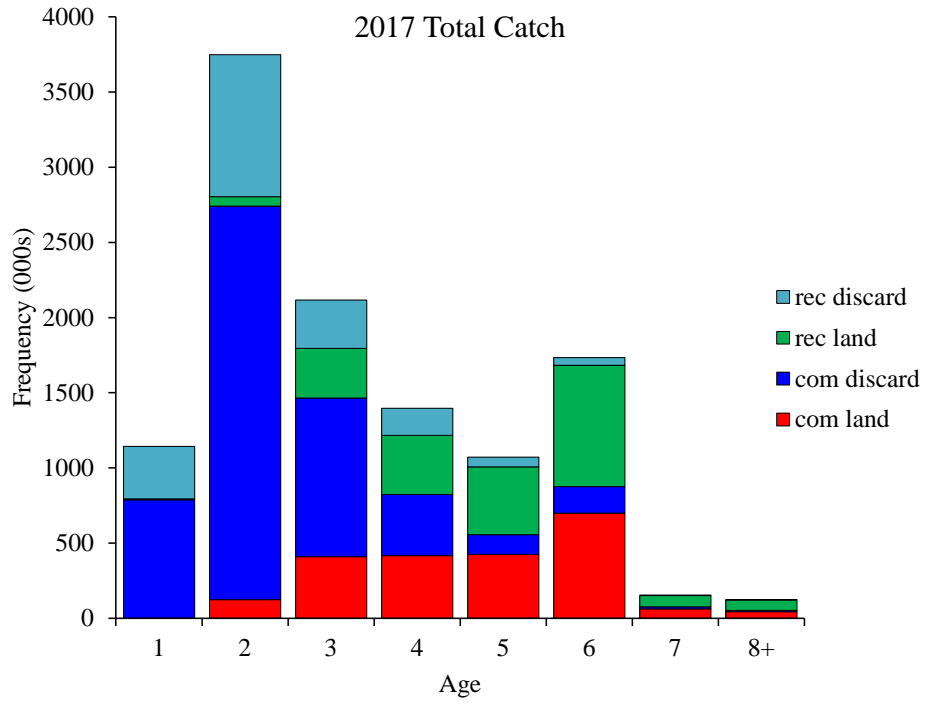


Figure 10. Age composition of Black Sea Bass catch, Maine to Cape Hatteras, North Carolina Black Sea Bass 2017.

Table 5. Summary of Black Sea Bass total catch (mt), 2006-2017.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Min ¹	Max ¹
Commercial landings	875	523	751	765	782	1,027	1,088	1,113	1,169	1,761	523	1,564
Commercial discard	66	209	142	157	103	211	416	335	546	806	25	806
Recreational landings	909	1,159	1,421	507	1,480	1,198	1,745	1,864	2,352	2,042	473	2,352
Recreational discards	257	241	273	232	364	296	382	371	551	576	46	771
Catch used in assessment	2,107	2,132	2,587	1,662	2,729	2,733	3,631	3,683	-	-	1,662	4,346
Spawning stock biomass	5,594	6,460	8,215	8,258	9,878	12,833	17,158	16,552	-	-	2,485	17,158
Recruitment (age 1, millions)	27.5	22.4	22.6	22.1	68.9	27.6	17.8	24.9	-	-	11.9	68.9
F full ²	0.57	0.50	0.45	0.30	0.35	0.33	0.29	0.24	-	-	0.24	1.34

¹ Years 1989-2017

² F on fully selected ages 4-7. Note that table values are not retro adjusted.

-

Survey Indices

Survey data is presented for the northern and southern regions as defined in the SARC62 black sea bass stock assessment (<https://www.nefsc.noaa.gov/publications/crd/crd1703/>). The strong 2011 cohort which was dominant in the northern region continues to be a large component of surveys north of Hudson Canyon. The abundance indices from the NEFSC 2018 spring survey shows a low index of abundance in the north and above average indices in the southern region. A shift in spring distribution relative to the demarcation line between north and south resulting from changes in survey timing likely influenced the 2018 index. The 2015 cohort appears to be above average to strong in many of the state surveys, (with the exception of NJ and VA) as well as the preliminary 2018 NEFSC survey.

NEFSC Survey – Northern Region

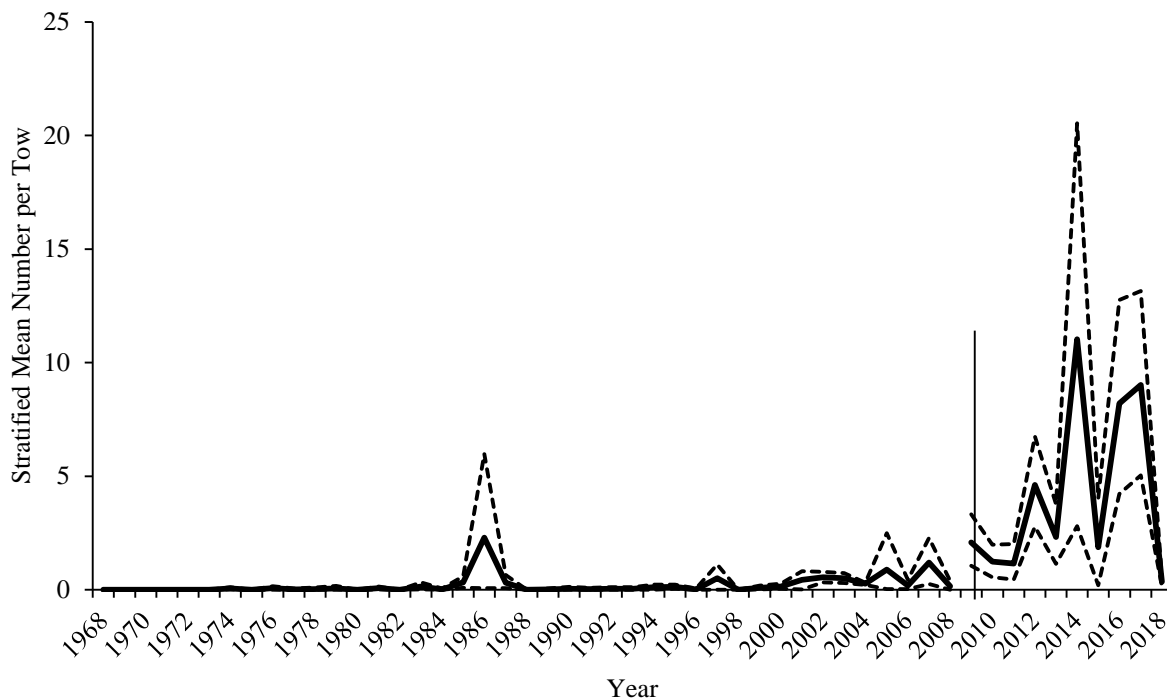


Figure 11. NEFSC spring north offshore stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 1968-2018. Vertical line identifies split between the *Albatross* and *Bigelow* survey series. *Bigelow* data presented as separate series for 2009-2018.

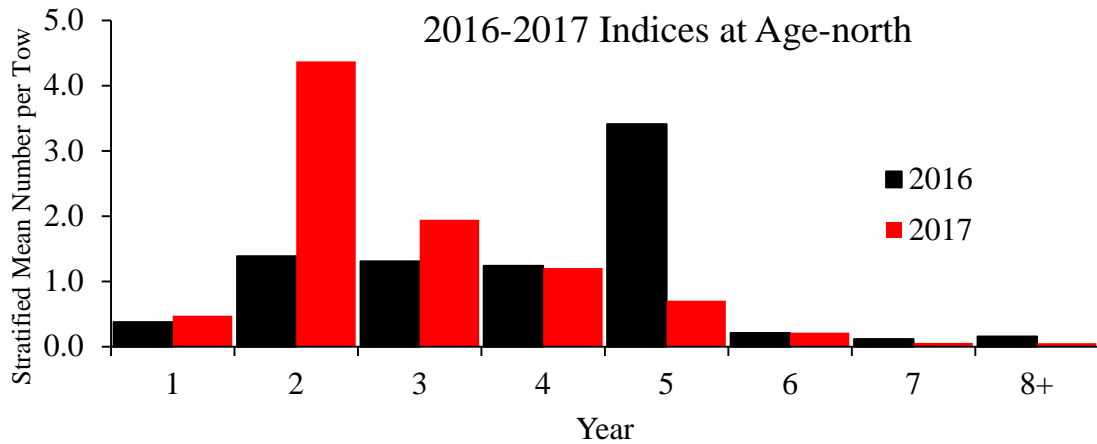


Figure 12. NEFSC Black Sea Bass spring indices at age from northern region.

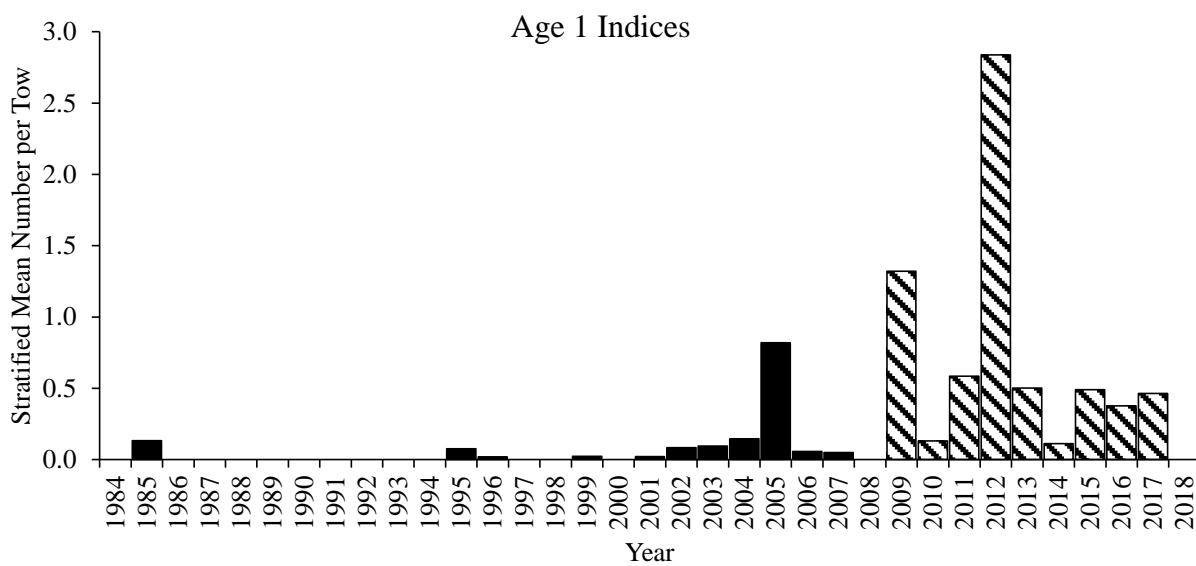


Figure 13. Indices of Black Sea Bass recruitment (mean #/tow, age 1) in northern region from NEFSC spring offshore survey, 1984-2018. Bigelow indices from 2009-2018 not calibrated to Albatross units. The 2018 index (mean number per tow at age 1 = 0) is approximated from length distribution.

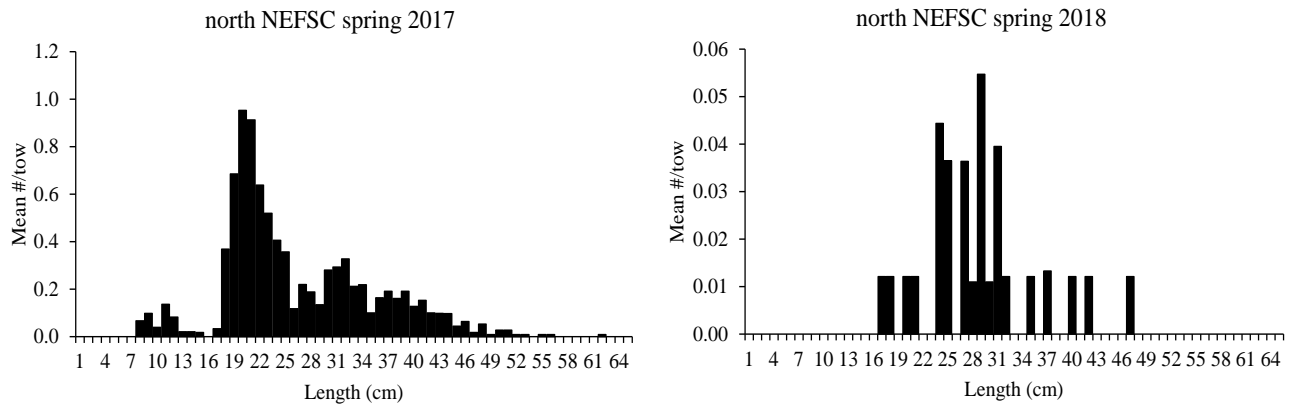


Figure 14. Length composition of NEFSC spring survey in northern region, 2017 and 2018.

NEFSC Survey – Southern Region

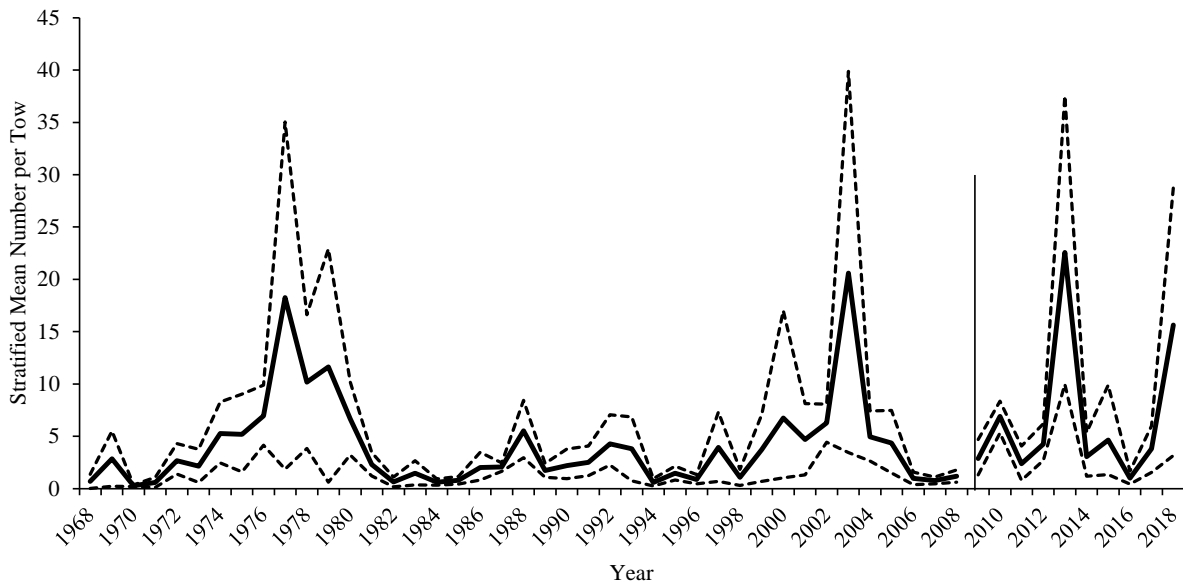


Figure 15. NEFSC spring south offshore stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 1968-2018. Vertical line identifies split between the Albatross and Bigelow survey series. Bigelow data presented as separate series for 2009-2018.

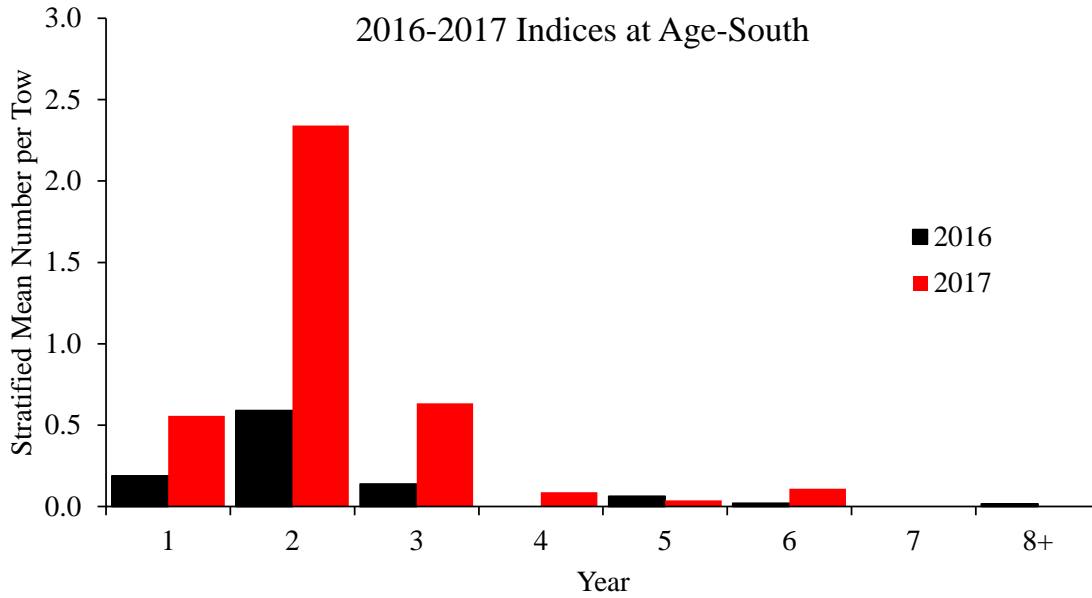


Figure 16. NEFSC spring mean number per tow at age from southern region for 2016 and 2017.

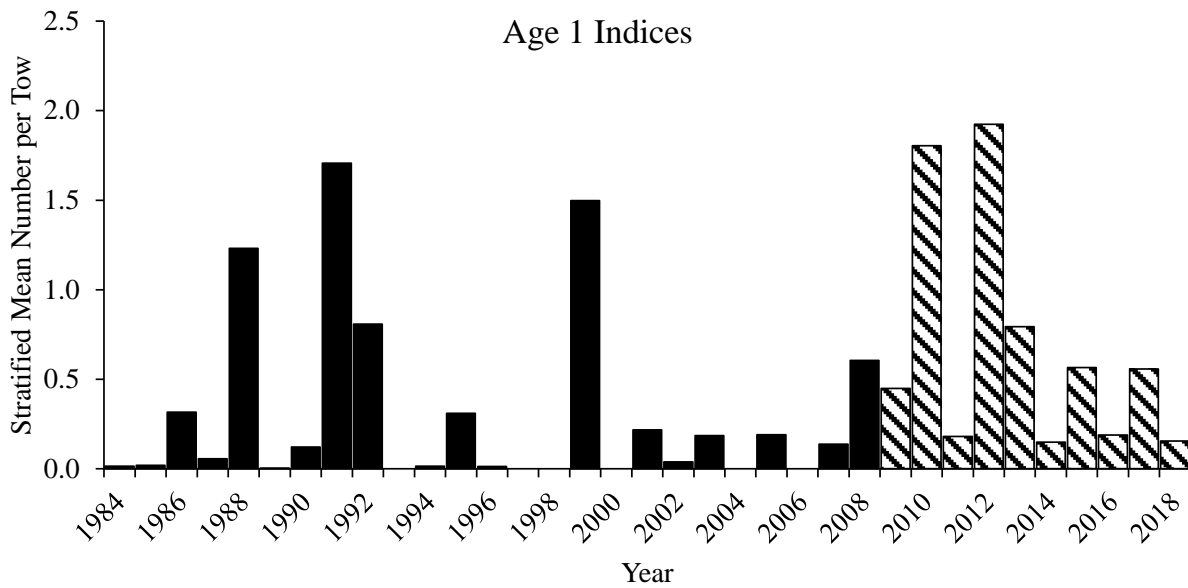


Figure 17. Indices of Black Sea Bass recruitment (mean #/tow, age 1) in southern region from NEFSC spring offshore survey, 1984-2017. Bigelow indices from 2009-2018 not calibrated to Albatross units. 2018 index approximated from length distribution.

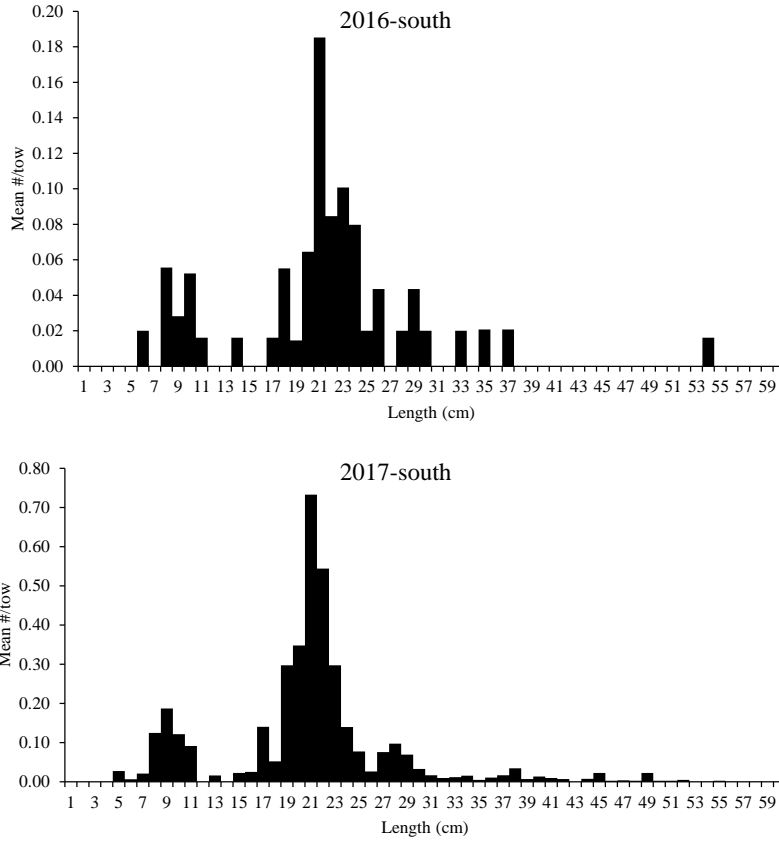


Figure 18. Length composition of NEFSC spring survey in southern region, 2016 and 2017.

NEAMAP Survey-Northern Region

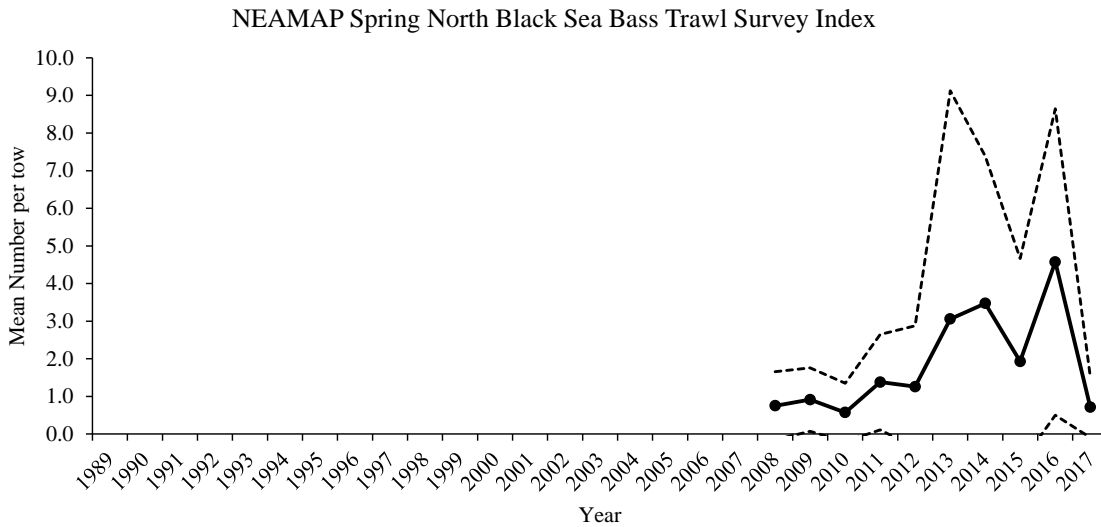


Figure 19. NEAMAP spring Northern stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 2008-2017.

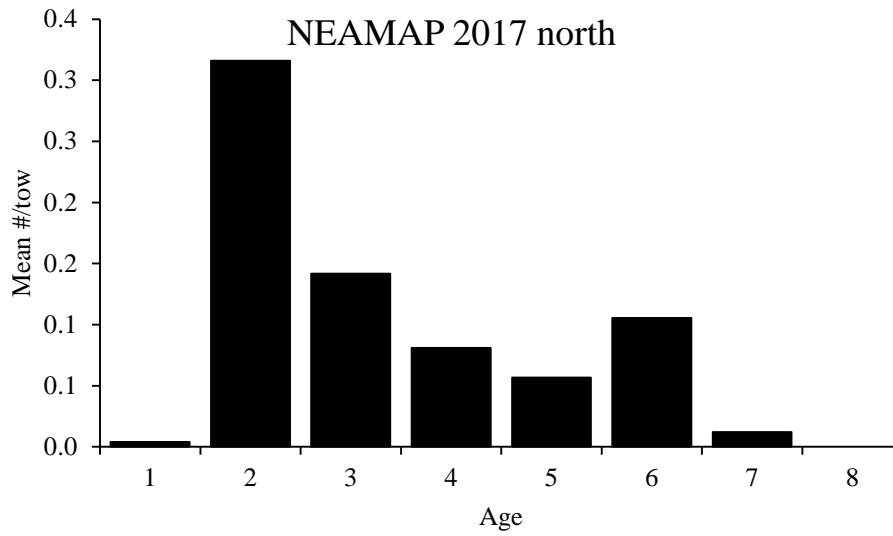


Figure 20. NEAMAP 2017 spring Northern stratified mean number per tow at age of Black Sea Bass.

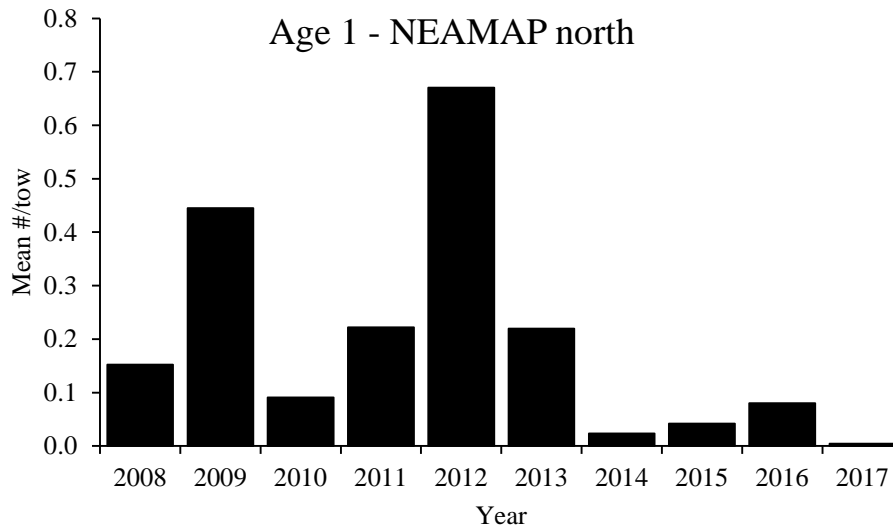


Figure 21. NEAMAP spring Northern stratified mean number per tow at age one of Black Sea Bass, 2008-2017.

NEAMAP Survey-Southern Region

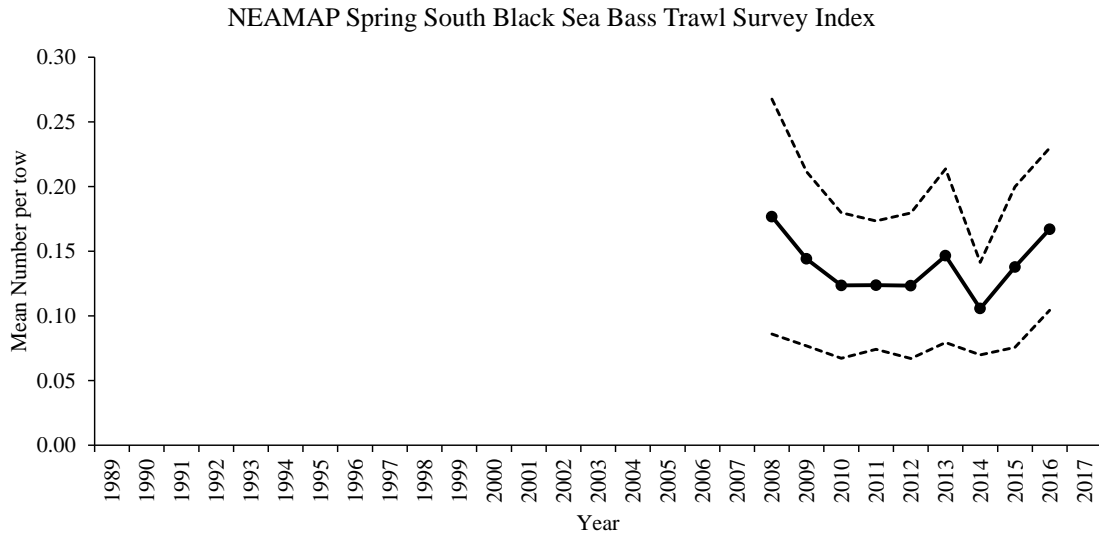


Figure 22. NEAMAP spring Southern stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 2008-2016. 2017 index is not available due to logistical issues sampling strata in the southern region.

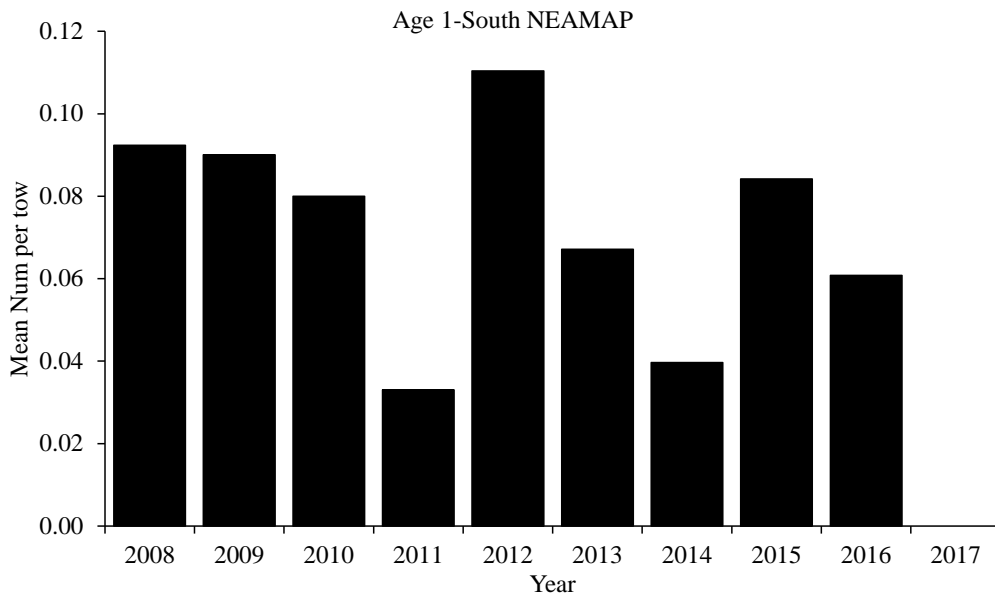


Figure 23. NEAMAP spring southern stratified mean number per tow at age one of Black Sea Bass, 2008-2016. 2017 index is not available due to logistical issues sampling strata in the southern region.

State Surveys- Northern Region

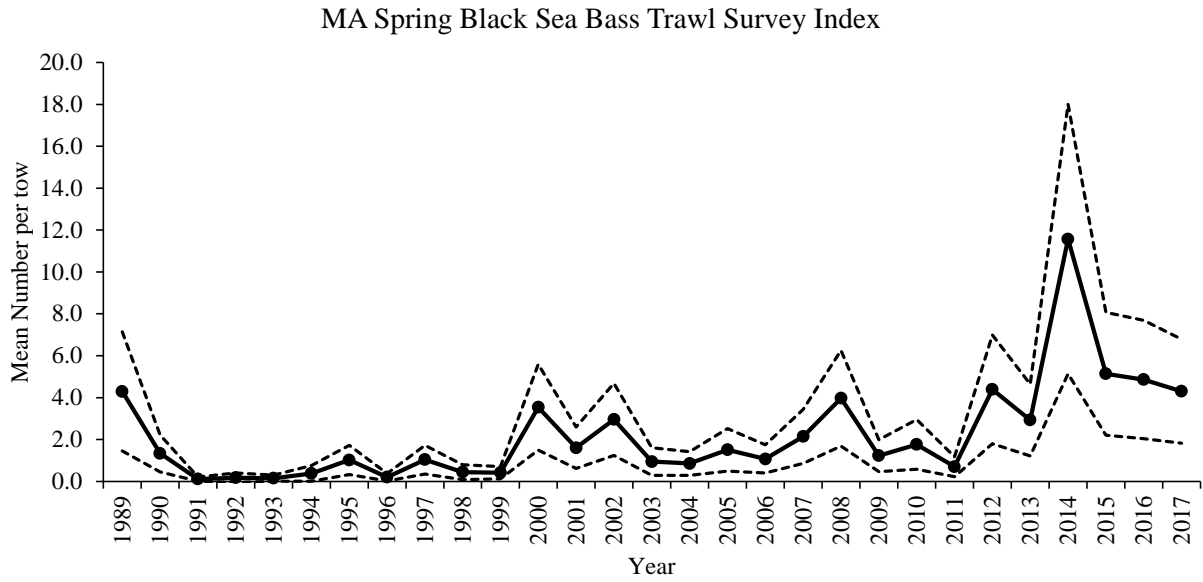


Figure 24. MADMF spring stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 1989-2017.

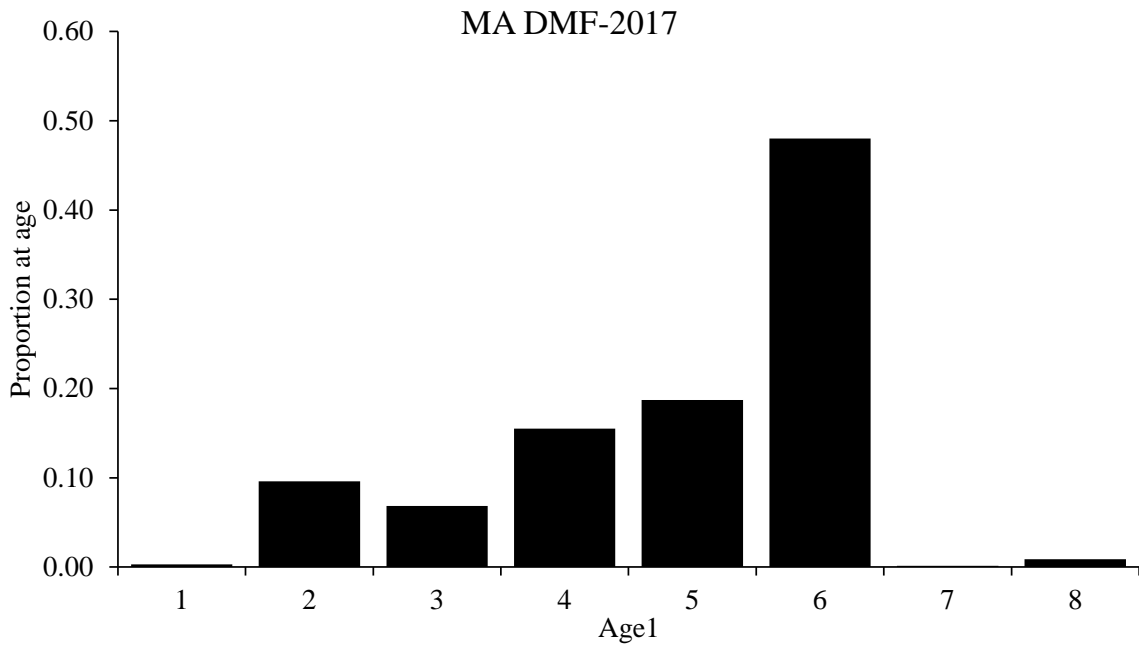


Figure 25. MADMF 2017 spring stratified mean number per tow at age of Black Sea Bass.

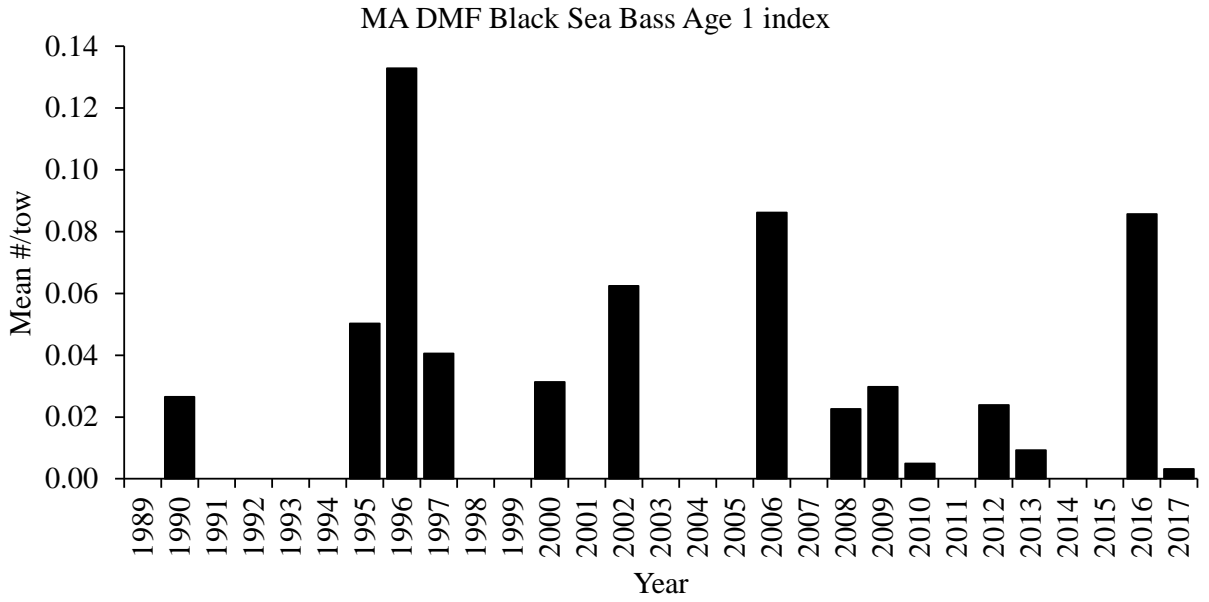


Figure 26. MADMF spring stratified mean number per tow at age one of Black Sea Bass, 1989-2017.

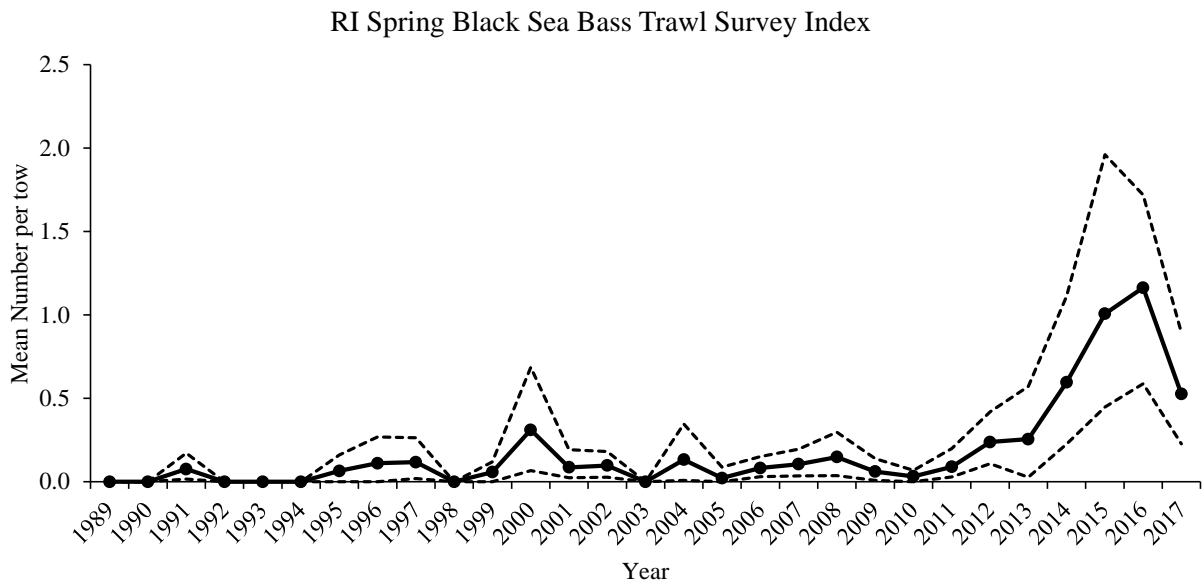


Figure 27. RIDEM spring stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 1989-2017.

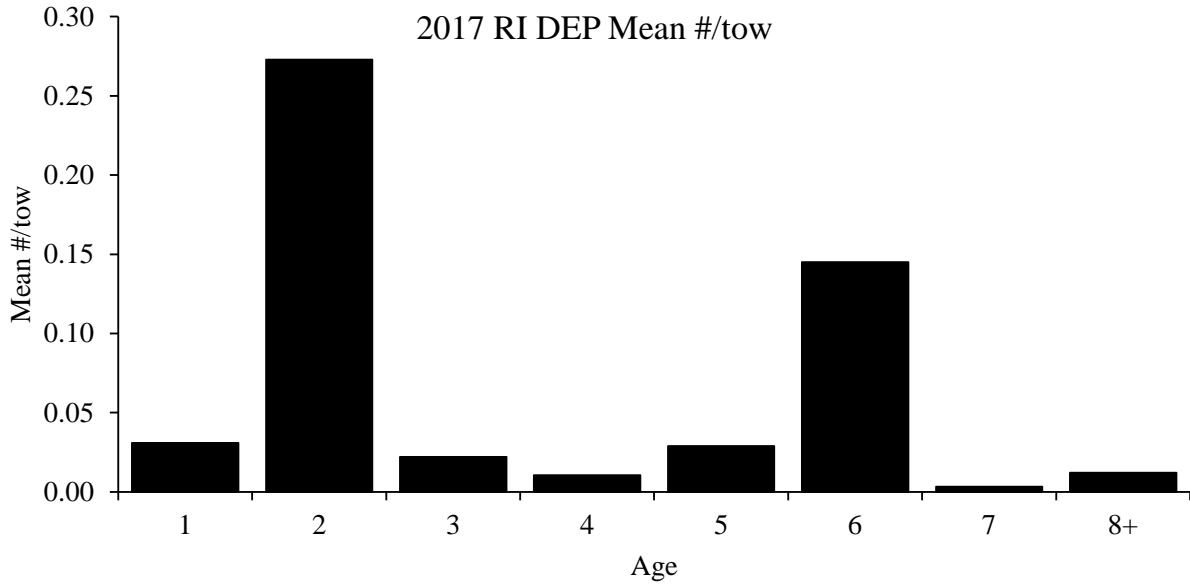


Figure 28. RI DEM 2017 spring stratified mean number per tow at age of Black Sea Bass.

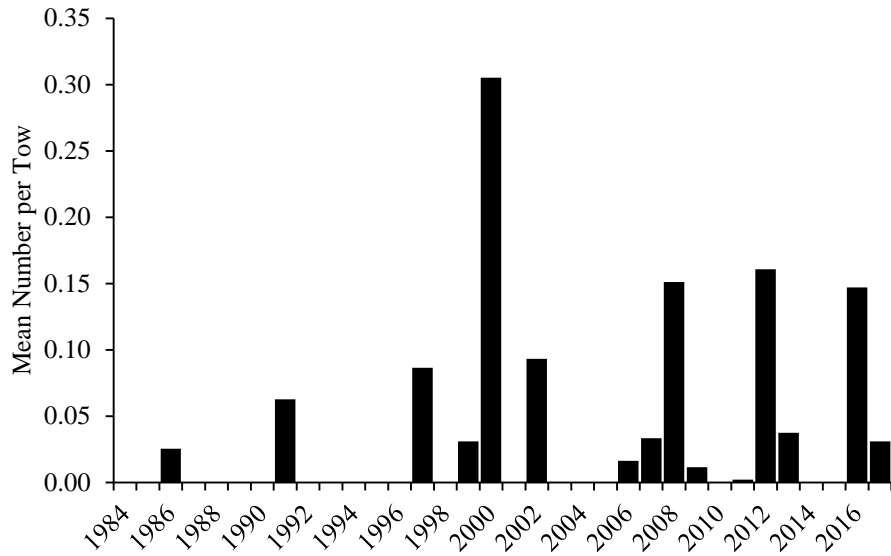


Figure 29. RI DEM spring stratified mean number per tow at age one of Black Sea Bass, 1984-2017.

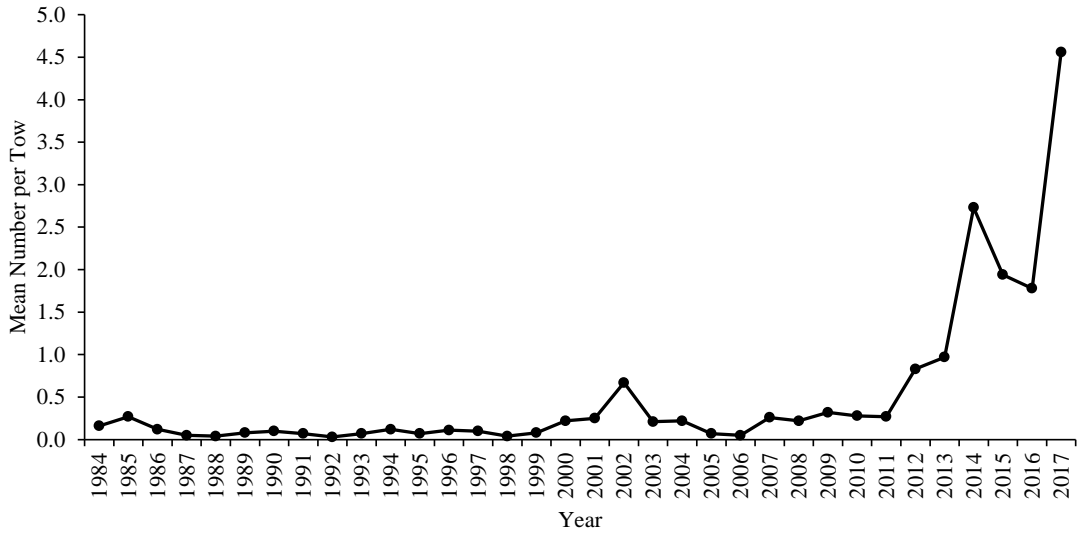


Figure 30. CT DEP nominal spring stratified mean number per tow of Black Sea Bass, Long Island Sound 1984-2017.

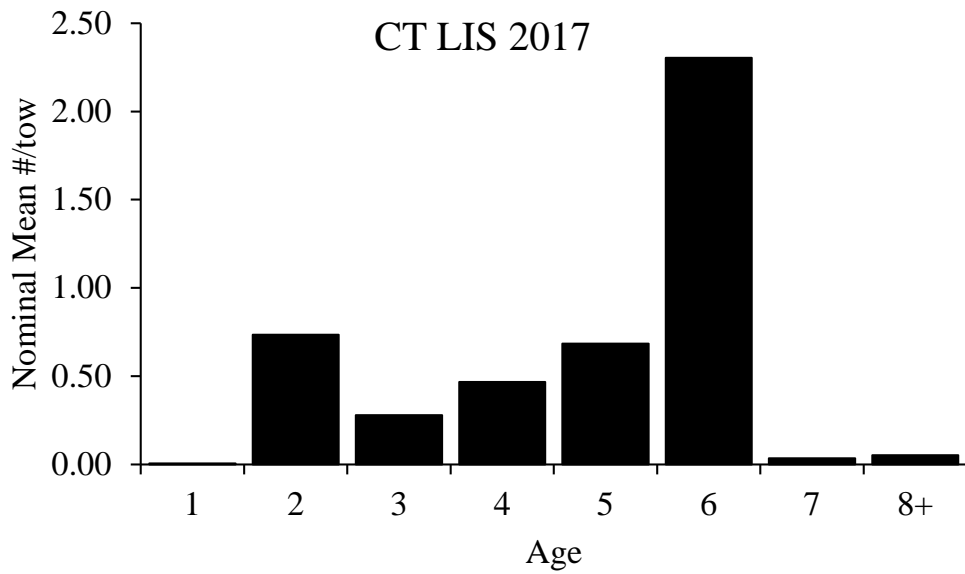


Figure 31. Age composition of CT DEP nominal spring stratified mean number per tow of Black Sea Bass, Long Island Sound 1984-2017.

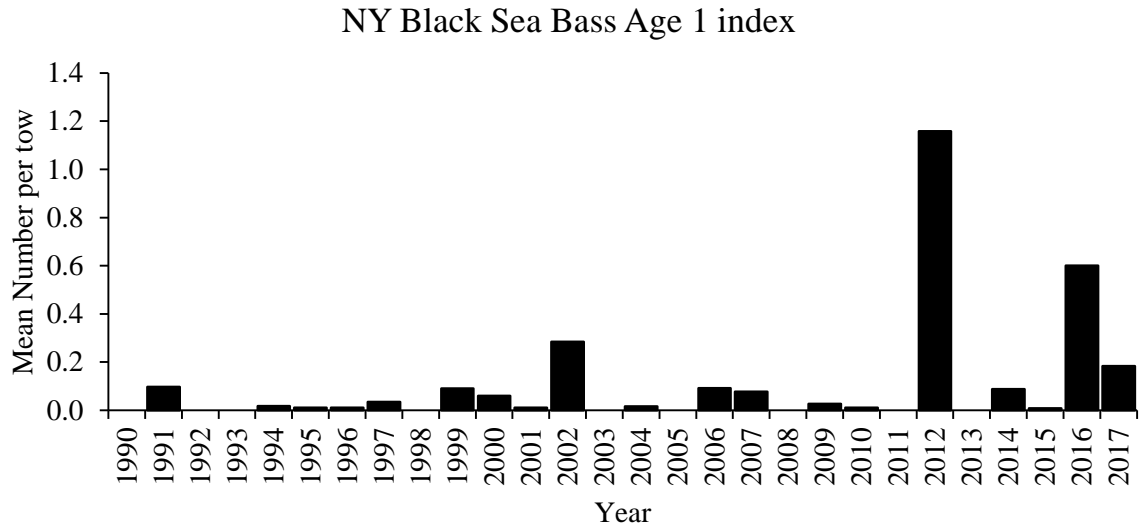


Figure 32. NY DEC spring stratified mean number per tow at age one of Black Sea Bass, 1989-2017.

State Surveys- Southern Region

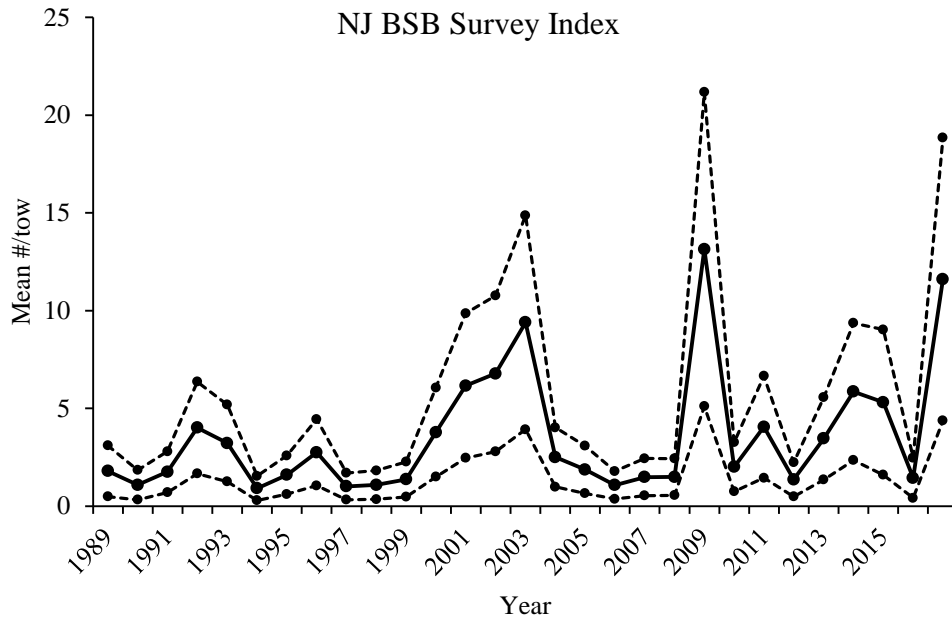


Figure 33. NJ DEP spring stratified mean number per tow (\pm 90% CI) of Black Sea Bass, 1989-2017.

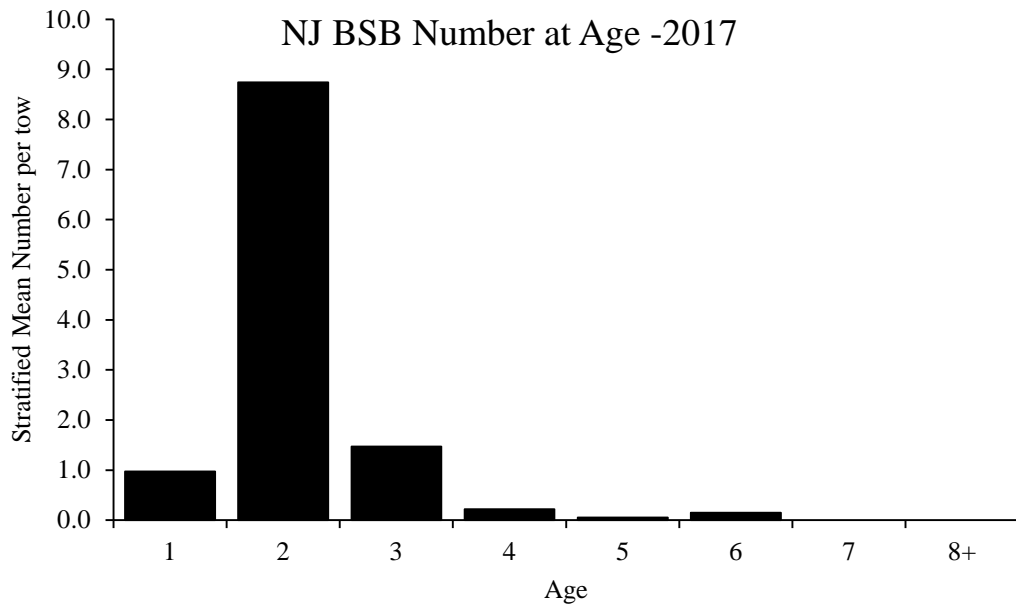


Figure 34. NJ DEP 2017 spring stratified mean number per tow at age of Black Sea Bass.

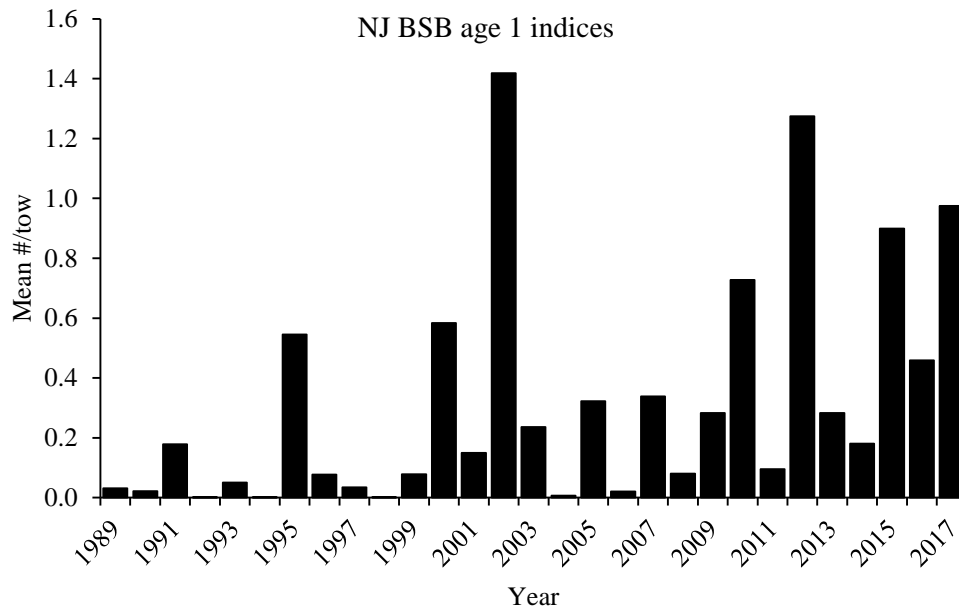


Figure 35. NJ DEP spring stratified mean number per tow at age one of Black Sea Bass, 1989-2017.

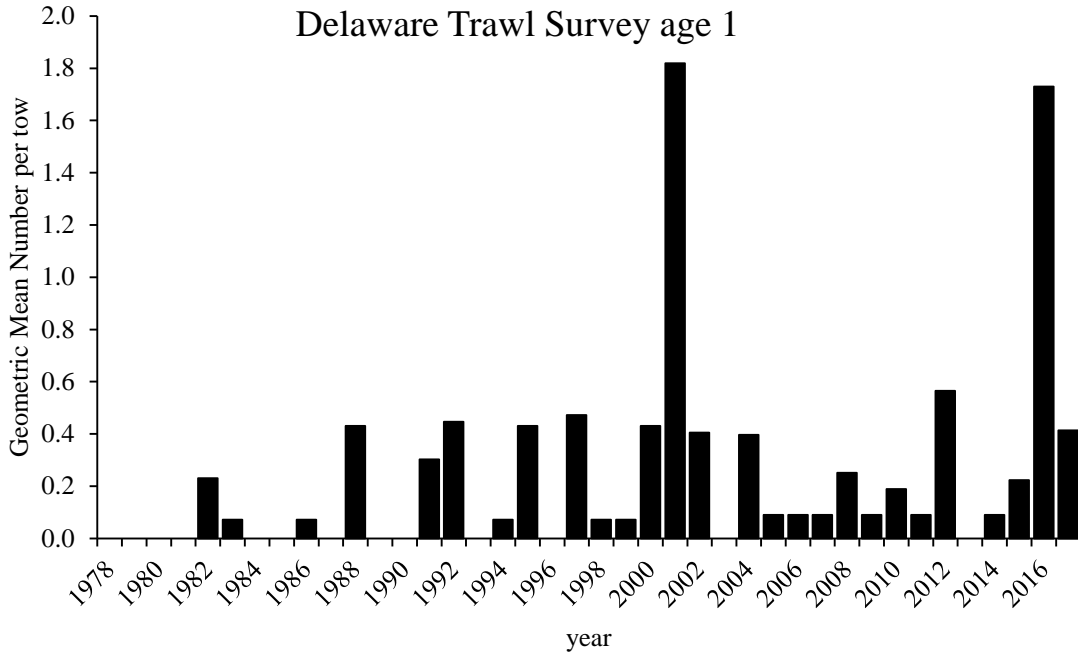


Figure 36. DE DFW spring stratified mean number per tow at age one of Black Sea Bass, 1978-2017.

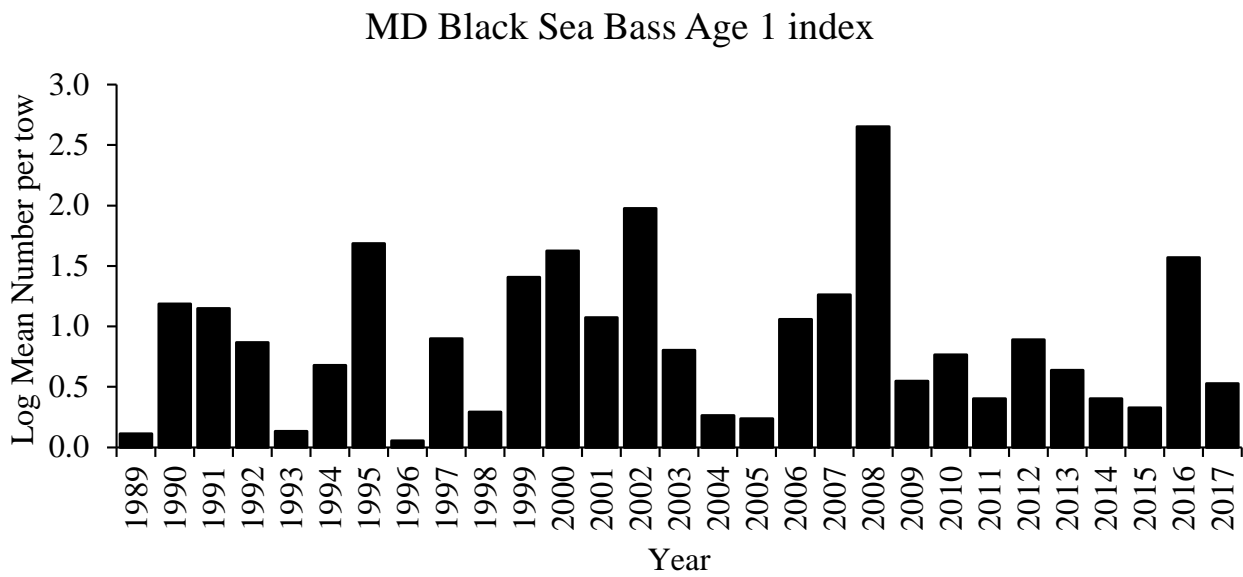


Figure 37. MD DNR spring stratified mean number per tow at age one of Black Sea Bass, 1989-2017.

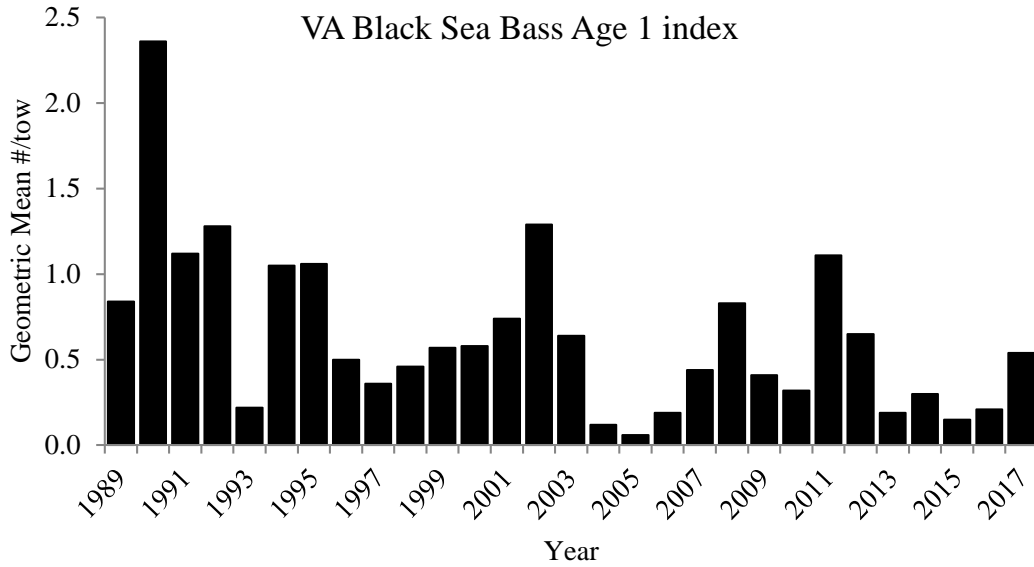


Figure 38. VIMS spring stratified mean number per tow at age one of Black Sea Bass, 1989-2017.

Recreational Catch per Angler Trip

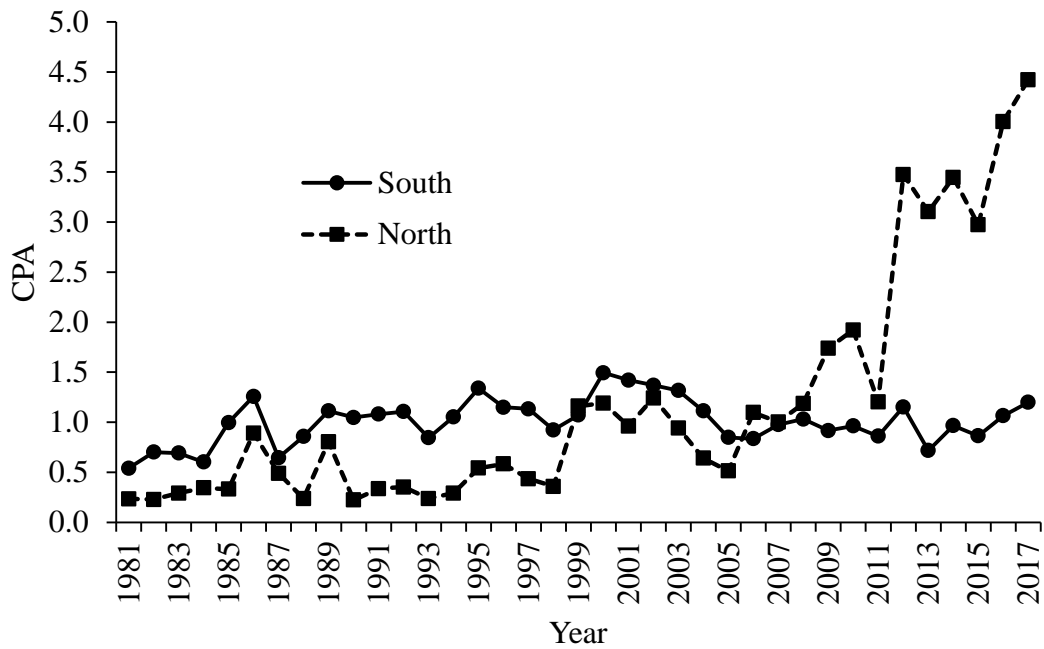


Figure 39. MRIP recreational catch (AB1B2) per angler for northern and southern regions, 1981-2017. Effort based on catch per angler trip within a regional guild of species.

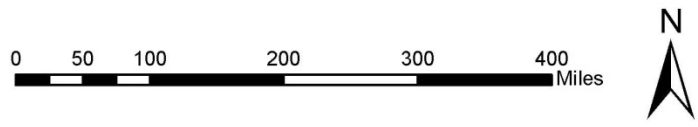
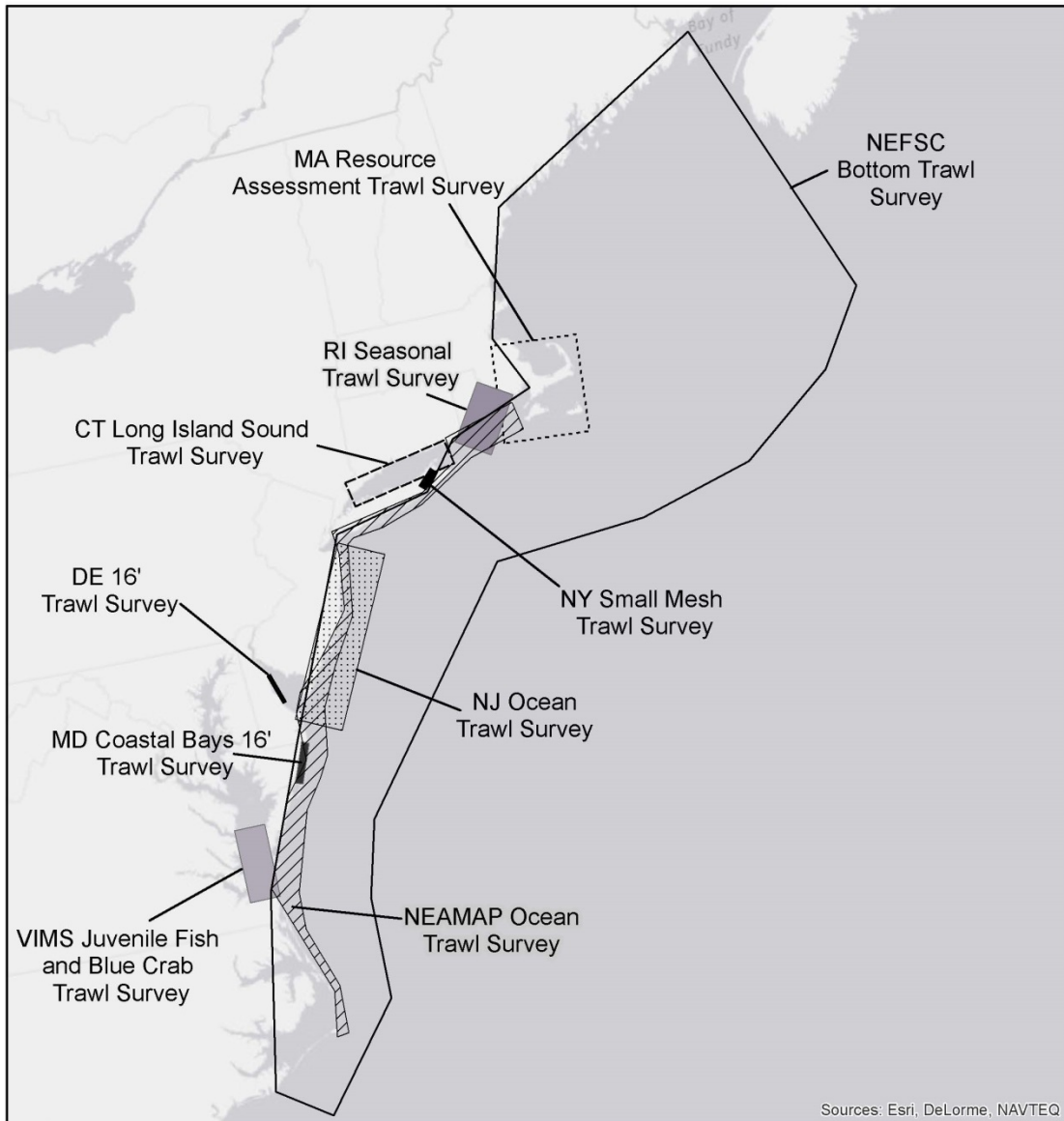
Reference Documents

Northeast Fisheries Science Center. 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 17-03; 822 p. (doi:10.7289/V5/RD-NEFSC-17-03) Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at <http://nefsc.noaa.gov/publications/>

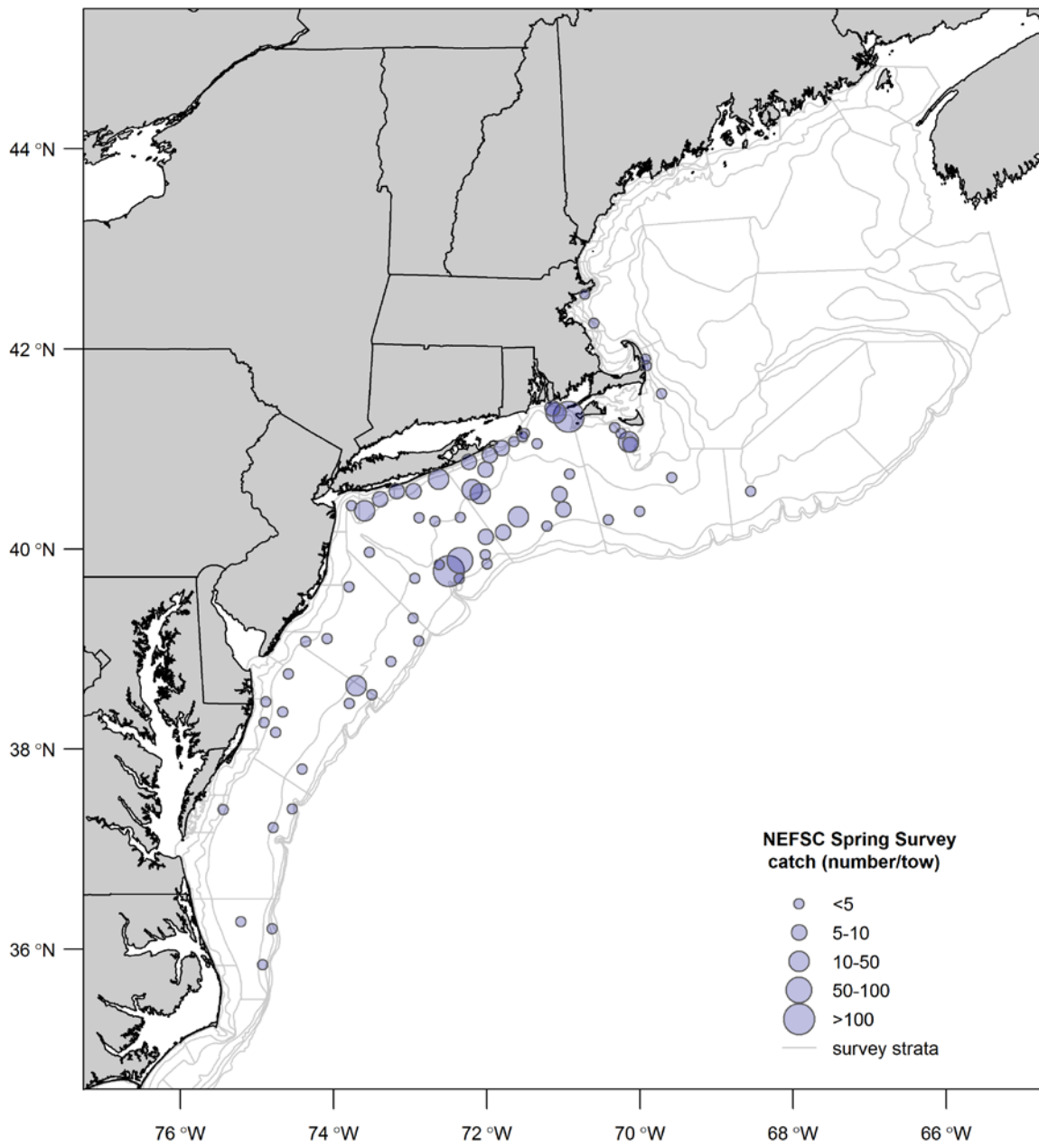
Acknowledgments

NEAMAP information courtesy of Jim Gartland, VIMS. NEFSC age information developed by Josh Dayton, NEFSC. Data contributions from MADMF, RI DEM, CT DEP, NY DEC, NJ DEP, MD DNR, VIMS. MRIP CPA developed by Jeff Brust, NJ DEP. NEFSC survey maps produced by Alicia Miller, NEFSC.

Spatial extent of state and federal surveys contributing to the assessment

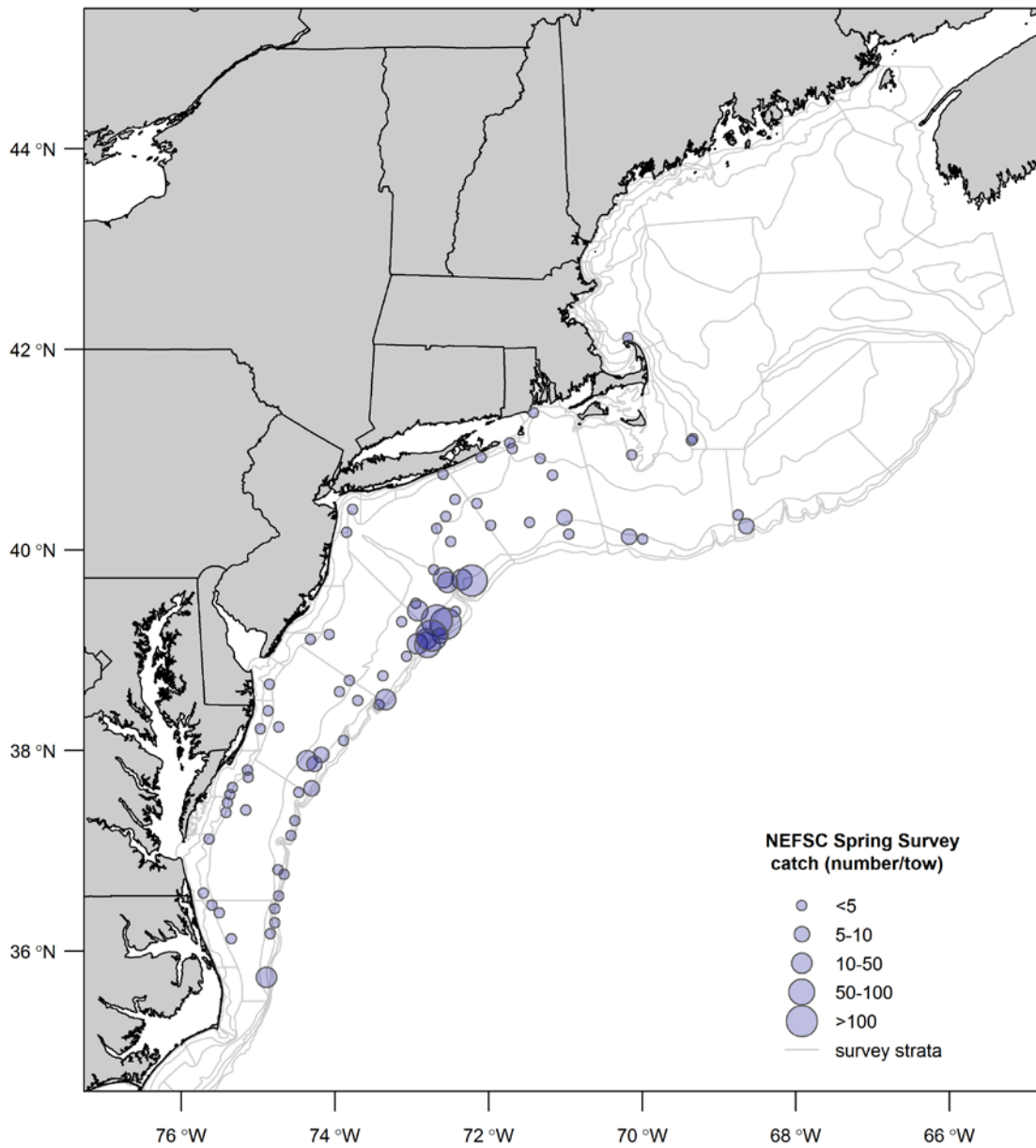


SPRING 2016



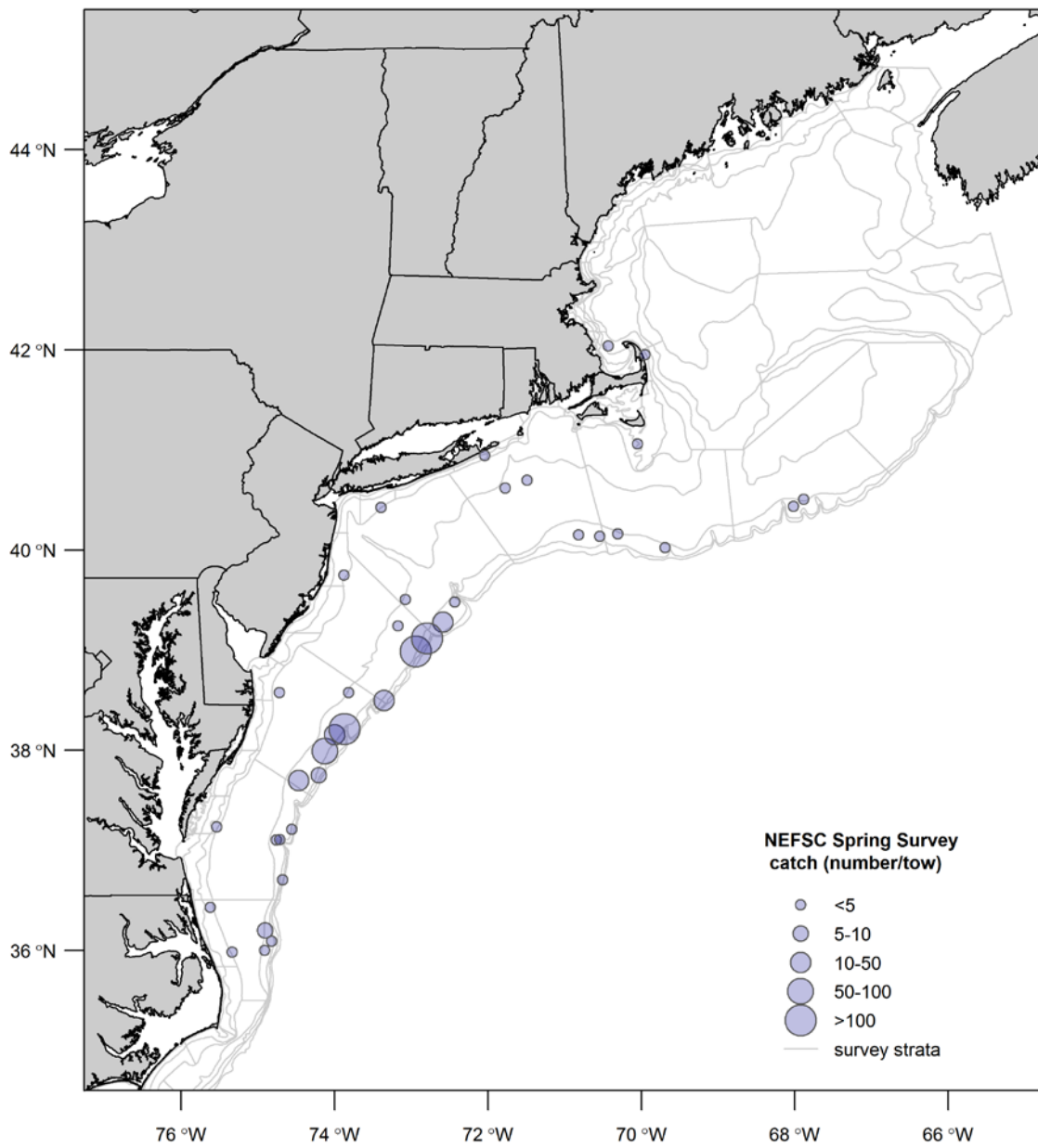
Appendix Figure 1. Black Sea Bass distribution from 2016 NEFSC spring survey.

SPRING 2017



Appendix Figure 2. Black Sea Bass distribution from 2017 NEFSC spring survey.

SPRING 2018



Appendix Figure 3. Black Sea Bass distribution from 2018 NEFSC spring survey.

Summer Flounder, Scup and Black Sea Bass Advisory Panel

AP member comments provided prior to meeting

June 22, 2018

Brady Lybarger (NJ)

- Research
 - The Council should consider using a research set-aside (RSA) program for summer flounder, scup, and black sea bass. The scallop RSA program works well. Fishermen should be involved in research. Research and commercial harvest should take place on the same trips. Allowing fishermen to sell their catch from RSA trips generates income for fishermen and funding for science.
- Commercial possession limits
 - The regulations for state-specific possession limits be modified to address landings, rather than possession. This would give fishermen more flexibility in where they land their catch. For example, fishermen could unload their limit of one species in one state, while retaining another species on the vessel to land in a different state.

Steven Witthuhn (NY)

- Black sea bass “regions”
 - Regions and the management associated with the regions need to be more clearly defined.
 - Northern region states all have different regulations
 - These differences get anglers upset with the management system
 - Differences within the region make management and recreational catch estimates more difficult and uncertain.
 - Lessons should have been learned from the fluke regional management approach.
 - Consideration should be given to splitting NJ North-South and align those regions with the Northern and Southern regions, respectively.
- Black sea bass management timeframe
 - The regional configurations and management measures need to remain in place and consistent for a number of years (3+) in order to provide some stability and determine if the approach is working and what the impacts on the population might be
- General: when does anecdotal information become fact? If 100’s-1,000’s of anglers and captains are observing the same thing on the water, when will science incorporate this information and not just ignore it?

June 18, 2018

Comments for AP fluke, sea bass, scup meeting June 26, 2018

Council staff:

I wish to thank council for the wise decisions I have seen made thus far in my three years as a member of the AP panel, as it pertains to the region I represent, southern NJ.

1. The allowance for the Delaware Bay to have a lower size limit for fluke has helped the few surviving businesses in that region, though many marinas and related businesses have closed due to lack of fish and strict regulations.

2. The allowance for New Jersey to become its own region for fluke regionalized management allows the state to set regulations consistent with mandated conservation equivalency more appropriate to the temporal shift in the fluke stock. Hopefully the state will act wisely to propose regulations consistent with the stock size parameters along its coast.

3. The reopening of the previously closed sea bass season in federal waters from Sept 21 to Oct 22 will allow the states to set seasons that allow more continued fishing opportunities. This should result in more fishing activity when the season was closed last year for fluke and sea bass during much of Sept and Oct with resultant loss of business to the state and discontinuity of recreational fishing effort. Now with an extended fluke season (Sept 22 vs Sept 5 last year), and sea bass being opened Oct 5, the struggling state recreational fishery related businesses should see an uptick in sales for that time period.

Overall, though, marinas in my area are still far below capacity and fishing effort that I see is no where near what it was in the past. My nonscientific assessment is marina occupancy and fishery activity is down 25-30%. Our bay and ocean striped bass fishery is almost nonexistent. Fluke stocks continue to be at a low level based on my observations and personal catches. Despite the abundance of sea bass, the catch in the Delaware Bay is nonexistent, the near shore catch in small, and only decent abundance is found out 20-30 miles, and even there is not what it once was. We rarely catch scup in southern NJ.

Slot sizes.....I would be in favor of allowing slot size provisions for all three species as this gives management additional opportunity and flexibility in managing these species. Realizing the limited usefulness of slot sizes for sea bass and scup, still it is wise to have this capability for future possibly unforeseen circumstances.

Other sea bass recommendations.....We are very lucky to be in a situation where we have such a robust sea bass stock. I hope we can manage it wisely so as not to be in a situation close to fluke where we are bordering on having an overfished stock. I would make the following comments:

1. I am in favor of making the sea bass regulatory process as close or the same as fluke

management for two reasons. One is that it would reduce management complexity for staff and establish more uniform regulatory frameworks for our stocks. Secondly, and perhaps even more importantly, it would help (to at least some extent) to reduce the frustration the public perceives in our rather complex management processes, when they attempt to understand how our fisheries are managed. In this regard I would favor conservation equivalency with rollover Option 1Bii.

2. I would also recommend mandatory "venting" of sea bass when recreationally fishing in waters over 80 feet deep (the depth I see where barotrauma is significant). Wasteful fishing practices should be greatly discouraged when possible.

3. We are lucky to having sexual dimorphism (ability to distinguish sex by external features) in sea bass. The importance of the females (and subordinate males) makes this an ideal fishery to make it a sex based fishery where only males (obvious blue hump) should be retained. This is particularly important in the spring when the females are loaded with eggs.

4. I would strongly recommend we transition from an MRIP data based system because of the inherent inaccuracy in the system despite repeated modifications. Time and time again this data has proved faulty and is a huge waste of resources and money. Transitioning to an "F" based system like used for striped bass would be huge improvement in terms of reliability, cost, believability, continuity, and stock management.

Research recommendatons:

I have spent a great deal of time studying ocean temperature data (and acidification data) and for sure it has had some effect on stocks particularly in areas like the Gulf of Maine where the effect is magnified. The oceanic (surface and benthic) temperature changes we have seen (and not those worst case scenarios I have seen presented to council) thus far, are relatively minor compared to some of the massive stock shifts we have seen thus far in some of our stocks.

It was quite an interesting read studying the history of the cod stock shifts seen from the late 1800's to the present. Clearly demonstrated are decimation of cods stocks with different DNA makeup, and different migratory patterns of those subunit stocks. It is my belief that we have experienced the same pattern in our fluke stocks.

Our current management scheme has for many years allowed a disproportionate share of the commercial fluke stock to southern states. With commercial fishing effort having shifted beginning in the late 1980's to a winter fishery, exploitation of the stock during its crucial spawning season, could well have decimated the southern portions of the stock causing the fleet to have to fish many hundreds of miles to the north then in previous years. I get the impression that management blames this on the very minor degree of benthic oceanic warming we have seen (whether one blames it on slowing thermohaline circulations or shifting of the cold water pool).

The problem with the loss of the southern portion of the stock is that the recreational fishing industry in those states suffers unfairly, violating the standards of the MSA requiring fair allocation to all parties. These comments are in no way commercial vs recreational in nature, but

instead a suggestion for management to consider the effects of fishing effort on depletion of east-west migratory stocks.

It is possible that this northern shift of the stock has also been a cause of reduced recruitment with a reduced survival rate of newly hatch fluke in more northern and eastern waters. This could be from being spawned in colder or deeper water, or in currents not conducive to good inshore push.

I would suggest research into looking at this scenario.

1. I would look for DNA differences in southern vs northern fluke.

2. I would study egg content of harvested fish to look for prime breeding times (some data is already available for serial spawning of this species) to hopefully curtail fishing activity during this period.

3. I would do a tagging study of fish on the spawning grounds to see how they migrate (i.e. do fluke migrate straight east or more southeast as they move inshore). In this context, I would explore if loss of spawning segments in a north-south axis will be causative for an inshore depletion.

4. I would look at a management scenario where ocean spawning grounds are closed as stock depletion is detected in those waters in a similar way, for example, like certain scallop grounds are closed temporarily as localized depletions occur.

4. On a separate note, I would look at data to see how much fluke loss is contributed to bycatch fisheries for skate, sea bass, scallop, and other fisheries.

5. I would look at the stock benefit of making sea bass a male only recreational fishery.

6. I would look at survival rates of released sea bass and various depths.

Kiley Dancy

From: James Fletcher <unfa34@gmail.com>
Sent: Friday, May 11, 2018 11:02 AM
To: Kiley Dancy; Moore, Christopher; Kellogg, Chris
Subject: 1. RECENT EXPERIENCES IN OCEAN RANCHING: THE CASES OF JAPAN, UNITED STATES AND ICELAND

<http://www.fao.org/docrep/005/Y1805E/y1805e07.htm#TopOfPage>

let us address ocean ranching if the "science" has a problem with stock enhancement. Something needs to be accomplished with Summer Flounders {look at sea scallop production} WHY DO THE COUNCILS ONLY MANAGE FISHERMEN INSTEAD OF THE RESOURCE?

--

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

Kiley Dancy

From: James Fletcher <unfa34@gmail.com>
Sent: Tuesday, May 8, 2018 5:35 PM
To: Kiley Dancy; Moore, Christopher
Subject: Re: June 26 Summer flounder, scup, black sea bass Advisory Panel meeting

Kiley: Could / Would a discussion of an enhancement program to release 20,000,000 one inch summer flounder be within the advisor discussion. At a cost of three to five cents to grow to one to three inches summer flounder it should be worth discussion, in Japan they know how to have white spots or markings to show using spawning methods. Thus we could know the recovery rate.

ALSO WOULD LIKE ADVISORS TO PUSH TOTAL LENGTH RETENTION IN RECREATIONAL DISCUSSION.

THOSE WANTING LARGER FISH CAN USE BARB-LESS HOOKS.

On 5/8/2018 10:33 AM, Kiley Dancy wrote:

Hello Summer Flounder, Scup, and Black Sea Bass Advisory Panel members,
The MAFMC and ASMFC have scheduled a joint Advisory Panel meeting to develop Fishery Performance Reports. Our meeting will be held in person on **Tuesday, June 26, 2018 from approximately 10AM-4:30PM** at the [Hilton Garden Inn BWI](#). We do not yet have sleeping room block information but will send it out as soon as it's available. We will also be sending out background materials and an agenda a few weeks before the meeting.

Please note that although the Council is currently reviewing AP membership applications for our typical re-appointment cycle, this meeting will be with the current group of advisors. New AP member appointments will be finalized in late June but will not be effective until July. Please let us know if you have any questions.

Kiley Dancy
Fishery Management Specialist
Mid-Atlantic Fishery Management Council
302-526-5257 (direct)
Email: kdancy@mafmc.org or kiley.dancy@noaa.gov

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

Kiley Dancy

From: James Fletcher <unfa34@gmail.com>
Sent: Wednesday, May 9, 2018 11:54 AM
To: Kiley Dancy; Moore, Christopher
Subject: Flounder enhancement discussion
Attachments: An_Economic_Review_of_the_Japanese_Flounder_Stock_.pdf

This article is mid 1990's it is time that the council & NMFS begin stock enhancement.

Fishery management has selected for slower growing & smaller fish utilizing regulations, TIME FOR A CHANGE FROM MANAGING FISHERMEN TO MANAGING FISH & FISH GROWTH WITH ENHANCEMENT FOR LARGER FASTER GROWING FISH.

--

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

Beaty, Julia

From: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>
Sent: Tuesday, June 26, 2018 6:45 AM
To: Kiley Dancy; Muffley, Brandon; Beaty, Julia; cstarks@asmfc.org
Subject: Fwd: Advisors meeting

Comments from AP member Bill Shillingford who's unable to attend

Kirby Rootes-Murdy
Senior FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200A-N
Arlington, VA 22201-2196
P: 703-842-0740
e: krootes-murdy@asmfc.org
w: www.asmfc.org

----- Forwarded message -----

From: "BUCKTAIL" <bucktail8@aol.com>
Date: Mon, Jun 25, 2018 at 9:11 PM -0400
Subject: Advisors meeting
To: "Kirby Rootes-Murdy" <krootes-murdy@asmfc.org>

I am sorry to tell you I will not be able to attend the advisor's meeting . I have been fighting some kind of Flu for past 3 days and while I am improving I don't think it wise for me to travel down there ,also don't want to pass on whatever I am fighting

Do hope you have a successful meeting
IF I can make a comment...There must be some relief on removing only females and throwing back a very high number that are dying.... There needs to be a slot of like 2 fish between 16-18 and 2 over 18".... The season also needs to be reviewed as Fluke in Southern NJ are arriving very Early April....This year I tagged and released 111 fluke with 44 over 18" up to 25" .pre opening day in NJ. Since opening Day I have caught and tagged 101 with only 11 over 18" and largest at 20" . Fluke only stay in inside waterways 8-10 weeks before moving back out to spawn....The current regulations with current size limits are destroying the population
Delaware fluke fishermen are catching same size fish in same numbers ,10 months a years and last year Delaware boats were in NJ waters in October catching fluke when NJ could not
Thank you for listening and hope you have a productive meeting

Bill Shillingford
bucktail8@aol.com

From: bob pride
To: [Beaty, Julia](#)
Subject: Re: Comments and reminder of other materials for tomorrow's AP meeting
Date: Monday, June 25, 2018 8:11:01 PM

Julia,

I expected to be there tomorrow, but work demands have once again intervened.

I have reviewed the comments and the briefing materials.

My inputs are as follows:

Alt Set 1: Support 1.B.ii

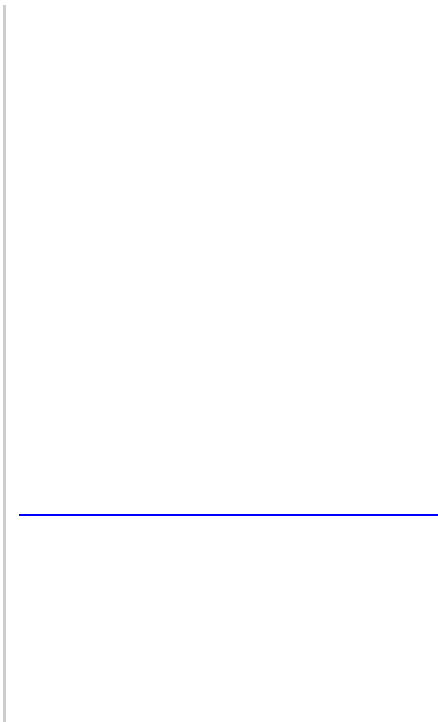
Alt Set 2: Support 2.B

Alt Set 3: 3.B.i does not make sense as it references transit of fish caught in federal waters when federal waters are closed. Huh? I don't understand the local issue as well as people from the area, so I make the following comment: I support relieving enforcement problems and cost burdens on fishermen due to transiting federal waters with catches from state waters. My support is subject to reasonable safeguards against abuse.

Alt Set 4: Slot limits are challenging for recreational fishermen and tend to compromise trophy fishing. That said, I would support 4.B to allow more flexibility for the Council.

Sincerely,
Bob Pride

,



Beaty, Julia

From: Kirby Rootes-Murdy <krootes-murdy@asmfc.org>
Sent: Tuesday, June 26, 2018 6:46 AM
To: Kiley Dancy; Beaty, Julia; Muffley, Brandon; cstarks@asmfc.org
Subject: Fwd: Comments from CT

Comments from AP member Jack Conway who's unable to attend

Kirby Rootes-Murdy
Senior FMP Coordinator
Atlantic States Marine Fisheries Commission
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Arlington, VA 22201-2196
P: 703-842-0740
e: krootes-murdy@asmfc.org
w: www.asmfc.org

----- Forwarded message -----

From: "John Conway" <ctjackc@gmail.com>
Date: Mon, Jun 25, 2018 at 10:23 PM -0400
Subject: Comments from CT
To: "Kirby Rootes-Murdy" <krootes-murdy@asmfc.org>
Cc: "JACK CONWAY" <jack.d.conway.Jr@lmco.com>

Greetings from CT.

Apologies on not being about to make the meeting tomorrow. I've been a bit tied up at work and I could not squeeze a trip in tomorrow.

My answers to discussion questions:

Note - my comments are primarily reflect the views of the private boat based angler in CT, which represent the "lion's share" of angling effort in the CT waters of LIS.

1. What factors influenced your catch of summer flounder, scup and black sea bass in recent years:

Summer Flounder - in general, summer flounder fishing in the CT waters of LIS has been somewhat "off" during recent years. Typically there has been a a bit of an early run (May/June) which ends quickly. A decade ago, the best fishing was in early August and peaked in late August. Fluke fishing ends earlier and there is a lack of good fishing before August. Obviously, recreational boats from CT will venture to NY and RI waters for better summer flounder fishing, landings from these vessels can confuse the reality of summer flounder fishing in CT waters.

Bottom line - the fishery in the CT waters of LIS is definitely not as good as it used to be, an early run and and an early ending.

Scup - a great success story for CT. I have a joke that CT is "a Scup State". Decades ago scup were primary targeted by minority communities that liked small pan fish. With e rebuilt fishery that offers large fish that fight good and poor

summer flounder and striped bass fishing, scup fill the void left by other species. In addition, they are now universally targeted by the recreational fishing community in CT. I have experienced some spotty fishing in certain areas that used to be great but overall no complaints. Somewhat uniquely, bluefish were almost absent in LIS last fall and scup again helped keep anglers on the water. They also allow anglers to fish for a good tasting fish in September and October which used to be dominated by tautog fishing. Scup are incredibly important to the recreational fishing community in CT. A long open season and reasonable bag limit are important.

Black Sea Bass - another incredibly important species for CT. LIS has a robust black sea bass population and recreational fishery that did not exist 20 years ago. They fill the slack for the decline in the striped bass fishery. There used to be a fleet of recreational boats (for hire and not for hire) everyday for striped bass. That effort has switched to black sea bass.

2. Issues or concerns:

In general, the Council does not solicit enough feedback from the private boat angler. The for hire fleet tends to dominate conversations but the majority of landings are from private boats. Private boats dwarf the economic impact of the for hire fleet. The council needs to rethink how it runs meetings and how they solicit input from the public. A switch to electronic meetings and a consideration of running meetings in early evenings is warranted. (No offense against the for hire sector.)

3. Research Recommendations:

Focus on understanding black sea bass population dynamics and if there are discrete populations of black sea bass.

4. Recommendations for 2019 regulations:

For CT, having the longest possible open season for black sea bass (and a May opening) is really important. Interestingly, Central and Western LIS have a great spring run of black sea bass and very poor fishing for them in the fall when Southern LI and RI have a robust fishery. Scup need to be managed in a similar fashion (long open season) and a September/October season for scup is also critical. CT and NY are very much linked in the summer flounder fishery since many CT boats will fish NY waters early in the season for the "spring run" of summer flounder. Early opening is important for this fishery as well.

Thanks- Jack

Kiley Dancy

From: Fishthewizard <fishthewizard@aol.com>
Sent: Monday, July 9, 2018 1:52 PM
To: Kiley Dancy
Subject: BSB AP Comments

- With black sea bass so abundant, the yearly quota should be increased. There are many age classes present proving an over abundance of fish to sustain a greater harvest.
- If the RSA program is used to fund studies, black sea bass quota awarded should benefit only that fishery, not other species.

Joan Berko

Kiley Dancy

From: Monty Hawkins <capt.montyhawkins@gmail.com>
Sent: Tuesday, July 3, 2018 7:33 AM
To: Luisi, Michael; Angel Willey -Dnr-; Moore, Christopher; Didden, Jason; Coakley, Jessica; Beaty, Julia; Kiley Dancy
Cc: Odell, Jay; peter.auster@uconn.edu; Hare, Jon
Subject: BSB Spawning Production..

Greetings All,

I've written about BSB spawning & age at maturity several times of late. I truly believe Nature's Plan for dealing with calamity can be utilized to great effect — offers the most simple restoration strategy; a strategy we employed until MRFSS mislead regulation into overly stringent regulation.. What I experienced owing our own pre-regulatory actions & bolstered strongly by early regulation was, primarily, a result of "all hands on deck" for spawning.

It's NOT overcrowding that triggers a shift to older maturity - it's the SIZE of males on a reef..

Well, I do hope you'll read & consider these thoughts I have offered for so long.

Cheers

Monty

From Fish Report 7/2/18..

On the East Coast we have a 10 fish limit on mahi. I'd be thrilled if we caught 10 for the boat while sea bassing..

Used to call them dolphin or dorado, but folks would get all wound up with "dolphin" on a menu. (Oh! We switched to dolphin free tuna and now they want to serve Flipper to us?!) Word usage transition must be very nearly complete if folks such as myself use "mahi" instead of dolphin.

In the Pacific, there are no limits. Even the staunchest conservation groups are A-OK with that because they grow so fast and begin spawning [at 3 to 4](#) months of age.

Oceana is about as protectionist as they come in the marine world; this from Oceana's website: "*Though the common dolphinfish is heavily fished by recreational and commercial fishers, its high productivity and young age at maturity have so far protected it from overfishing. Populations are stable and are able to support the heavy fishing. Currently, scientists consider the common dolphinfish to be a species of least concern*"

This is EXACTLY why I'm trying so hard to get management's attention on black sea bass's varying 'age at maturity.'

In sea bass, 'age at maturity' is malleable. We can change it via size limit regulation as evidenced by the size of blue 'knothead' spawning males -- I witnessed when ALL sea bass in the ocean appeared to be in the spawning class. All scientific works prior to 2000 have sea bass spawning at age zero/age one. (After you correct for mis-aging. It was once thought that a 9 inch sea bass was 3, even 5, years old. We know today that's solidly age one.)

As management began sea bass still spawned in their first months of life or certainly by age one. But after the size limit hit 12 inches that youthful spawning, as evidenced by abundance/absence of less than 9 inch males, was replaced by populations where males matured at age 3 or better.

Instead of all our throwbacks being spawners, now it's just our keepers.. Spawning success from hot oil? Not so good.

Sea bass were far more prolific off DelMarVa when the entire marine population was in the spawning class.

Recent issues with survey equipment have created 'experiments' off Maryland's coast where large areas of habitat had virtually all sea bass driven out. As these areas recolonized, sea bass again reverted to age one spawning..

(I wrote about this at length in my 6/22/18 report if you'd care to dig deeper..)

There was a time when I fully believed our sea bass off DelMarVa were at "Habitat Capacity" - that we just couldn't hold many more UNLESS WE BUILT MORE HABITAT.

That was in the early 2000s. Every reef built in the 1990s & into the early 2000s was swiftly colonized by sea bass capable of spawning.

We even had 1/2 day boats occasionally catching boat limits at 25 fish per-person when the 12 inch and 25 bag limit first

started in 2002.

But sea bass were already maturing later. As soon as all reefs, even the hardest hit--pounded daily by 1/2 days boats; as soon as even those reefs were populated by 12 inch sea bass -- by 2003 the little guys ceased to be. They would not transition to male until 11.5 inches or better. Because they also grow fast, relative to their max size, these just-maturing fish become legal soon after.

Where once reefs/wrecks with amazingly heavy pressure STILL had a strong spawning contribution to make, suddenly the entire inshore spawning population (or darn near all of it) was being removed..

We're experiencing a spike in spawning production now; where it was All Hands On Deck for spawning as the MD Wind Energy Area recolonized. Hopefully the African Queen Reef will follow suite as it seems the Navy is not returning with the Sheila Bordelon this year.. (Knocking wood..)

An amazing tool. Incredibly powerful. Management can FORCE sea bass to spawn young.

But because to do so requires LOWERING our size limit to match the commercial limit of 11 inches, getting NOAA et al to even consider it has been impossible.

After all, they have to keep a sharp eye out for Overfishing. Maybe this year's catch estimates will show kayaks outfishing all commercial trawl.

In an estimate system where shore fishers commonly have the largest average sized sea bass catches, any illusion of catch is quickly assigned the title, "Science."

Would that population biology & ecology might take catch estimate's place....

Regards,
Monty

Here from Fish Report 6/22/18 — So my theory on "size limit's influence on age at maturity in sea bass" will be nigh impossible. Where my other assertions are well supported in science except my beef with catch estimates.. My argument to compare Private Boat against the more well-known & measured Party/Charter landings hasn't gained an inch. I can get 100 regulators laughing out load by comparing Private Boat's insane estimates against Party/Charter, but they'll take not not one step toward using such comparison to truth the data. MRIP estimates are, after all, supported by brilliant statisticians **who do not fish**, yet the numbers are implausible beyond belief----and about to become many times worse under NOAA's impending "Recalibration." Bayesian Stops are REQUIRED. Currently an estimate stating Shore Fishers from one state, in one two month period, catching more fish than ALL COMMERCIAL EFFORT causes no discomfort to regulators. I've detailed many such exaggerated claims over the years.. So far as NOAA's concerned, there is no height recreational fishers cannot achieve where over-harvest of quota is concerned.

My thoughts on sea bass spawning production, however, cut against all teachings in fisheries science.

Where today science holds "big old fecund females," or "BOFF" as the best way to bolster egg production and therefore a population's spawning production is increased, my experience with sea bass populations shows BOFF to be wholly ineffective.

In fact, I believe BOFF-type thinking has curtailed production so badly that DelMarVa's nearshore reef spawning production has been nearly lost.

Indeed, today's sea bass population is mostly comprised of large females--larger than scientists once believed even existed prior to 2000--yet spawning production is minimized despite the greatest female population of sea bass since fishing began.

For years & years I've been trying to convince management of size limit's affect on black sea bass production: how ALL sea bass found at sea prior to 2002 were once spawners, but when the size limit increased to 12 inches their age at maturity--(or ability to participate)--shifted from age zero/age one to age three or better.

This spawning participation is, I believe, evidenced by the blue hump on a male sea bass; the nuchal hump. We call them knotheads..

When I was told in 1992 that: "All sea bass have spawned by 9 inches (age 1) and some twice," it was a true statement. Since 2002 it has been false. Except in one instance..

It's not crowding. Sea bass were astoundingly crowded in the late 1990s/early 2000s, but they still matured young as, so far as we knew then, they always had.

When a lot of age 3 fish started populating reefs however, younger fish ceased showing the nuchal hump -- almost completely. When the size limit was 11 inches and smaller, all the sea bass we threw back were spawners. Some for *another* year too.

When the size limit went to 12 inches (and then 12.5) almost none of our throwbacks were spawners. They grow 3 inches that 3rd summer. A 12 inch male thrown back in May will be legal come mid-June.

Seeing larger fish around a reef stops the biological urge to spawn at age one dead in its tracks.

Inshore grounds where fishing pressure is heaviest continue their downward sea bass population spiral, except on new reef. The greater fishing pressure is, the greater size limit impacts production. Used to be our heavily pressured inshore reefs contributed importantly to spawning production -- more so, I believe, than even distant & lightly fished reefs populated by jumbos. Pre-2002 size limits 11 inches & below forced ALL sea bass into the spawning population. Now we take sea bass JUST as they begin spawning.

Timing is everything.. Just as cbass are joining the spawning stock today--just as they are about to have their first spawn -- they also become legal.

Spawning population ain't much good in a fry pan.

Interesting..

Experiments with sea bass aquaculture

from: http://www.unh.edu/news/news_releases/2006/april/kw_060411bass.html

Berlinsky's team found that females were more likely to change sex when no males were present in the tank. Additionally, the fish were more likely to turn into males when kept in crowded tanks.

Did I mention they change sex? This a development that assures reproductive success on even far-flung isolated reef communities. It's at the core of my argument.

I believe we can purposely trigger age one fish to become males and start spawning simply by lowering the size limit a bit.

Well, we've recently completed an (unplanned!) experiment on this idea of shifting age at maturity.

In the spring of 2016 we had our worst 'spring run' of sea bass ever.

Ever.

We also had the utter evacuation of at least 500 square miles of seabed -- sea bass & flounder had completely left the area affected by sub-bottom profiler surveys in the MD Wind Energy Area by the summer of 2015. (see a video I had made in Jan 2016 with video from 2004 & the last day of August,

2015 <https://www.youtube.com/watch?v=46ahNqo8geE>)

After the surveys ceased in late summer 2015, recolonization for spawning's purpose began in 2016. I predicted a return to sub-9 inch male spawning colors owing there were no males staking their claim to prime habitats.

I also predicted an increase in spawning production.

It wasn't just the wind area. Though especially there, we also saw small males on many reefs/wrecks outside 15 fathoms owing, I believe, to suitable habitat unoccupied by age 3 or better males.

This recent spawning population of age 1 & age 2 sea bass propelled us to today's better fishing.

2016's enlivened spawning production became 'age one' on January 1st, 2017. They were fully in the spawning class that summer. We had the most 'knothead' sea bass off here in a very long time.

In 2015 I was still writing how we'd only see less than a dozen under-9 inch male sea bass a year - hadn't since 2002. In 2016 it was fairly commonplace to see small males again offshore a bit in some areas. Small, age one males were a frequent occurrence in 20 fathoms, some places 15 fathoms too. Perhaps the greatest reason this is so important is because every teeny, tiny bit of anything sticking above the seabed is colonized by some little guy and his girls. Increasing the percentage of the population in the spawning class makes for great reproduction.

Now age 2, they're making for a lot of throwback action. Soon the fastest growers will be legal.

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

Age 2 - 243.19g - 0.54 lbs - 8.7 to 12.2 inches. (our size limit 12.5 inches)

Age 3 - 395.48g - 0.871 lbs - 10.6 to 16.1 inches.

Age 4 - 604.69g - 1.33 lbs - 13.4 to 20.5 inches.

Age 5 - 861.95g - 1.90 lbs - 16.5 to 22.0 inches.

They can live to 12, perhaps older, but growth slows as it must..

In 2018 we are NOT seeing under 9 inch males -- just age 2 and above.

Those surveys about drove me mad. Guvmint said of survey noise: "They're as quiet as a ships propeller" ..couldn't do a thing to reef fish.

But fish fled the noise - left entirely after a couple years.

As in so many things in nature: From Catastrophe, Abundance.

If I cannot get science to pay attention this time, there may never be another.

We'll be drawn into MRIP's trap soon. Always able to find "overfishing" - MRIP even has 2016's MD Shore anglers loading up on 1.3 pound AVERAGE SIZED sea bass, and far more than Party/Charter caught that same year. We'll have a 15 inch size limit and some short season like up north -- all to "Prevent Overfishing."

A fishery that survived true overfishing's darkest days of even distant water fleets of factory trawl pummeling US fish populations; our recreational sea bass fishery may not survive management's ignorance.

Would that it might.

I absolutely believe a full suite of management options, including Ecology & Population Biology, can send sea bass populations above even those that must have existed during industrial fishing's earliest days.

It'll never happen so long as managers find regulatory comfort in recreational catch data that couldn't possibly be true.

Regards,

Monty

Capt. Monty Hawkins

Partyboat Morning Star

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Sent from my iPhone

Kiley Dancy

From: Monty Hawkins <capt.montyhawkins@gmail.com>
Sent: Monday, July 9, 2018 4:00 PM
To: Luisi, Michael; Angel Willey -Dnr-; Hare, Jon; john.manderson@noaa.gov; Odell, Jay; peter.auster@uconn.edu; Kelly, Moira; Moore, Christopher; Coakley, Jessica; Beaty, Julia; Didden, Jason; Kiley Dancy; Steve Doctor -Dnr-
Subject: Re: Prepare..

And, for anyone VAUGLY aware of the MD sea bass fishery - That MD Shore outcaught All MD Party/Charter in 2016 by 141,000 pounds might cause question.

Absolute BALONEY!

We've found One Guy who claims to have caught a keeper.. Yet MRIP claims Shore-Caught BSB AVERAGE 1.4 POUNDS!!!!!!

I can not believe this horrible infection in fisheries science has been allowed to fester to where it will kill the patient.

You're soooo much further from the truth than you were last night.

I hope my business survives this idiocy.

Regards

Monty

Sent from my iPhone

> On Jul 9, 2018, at 3:28 PM, Monty Hawkins <capt.montyhawkins@gmail.com> wrote:

>

> So now we have "recalibration" I hear.

> And do.

> One would think a 'calibration' might be accomplished with a known value & a recalibration undertaken as the known value became firmer.

> Instead - the dumbest statistical garbage ever Fed a system of regulation will have now become far worse than ever before.

> Unbelievable..

> Absolutely unbelievable.

> Yes - You will be FORCED to ingest NY wave 6 Party/Charter bsb 2016 and 17 as approx 30k lbs of landings — but the ghost fleet of Private Boats NY PROFESSIONAL SKIPPERS NEVER SEE caught over THREE MILLION!!

> What a complete failing.

> Unbelievable..

> This deserves to be made a fool.

> And shall.

> Regards,

> Monty

>

> Sent from my iPhone