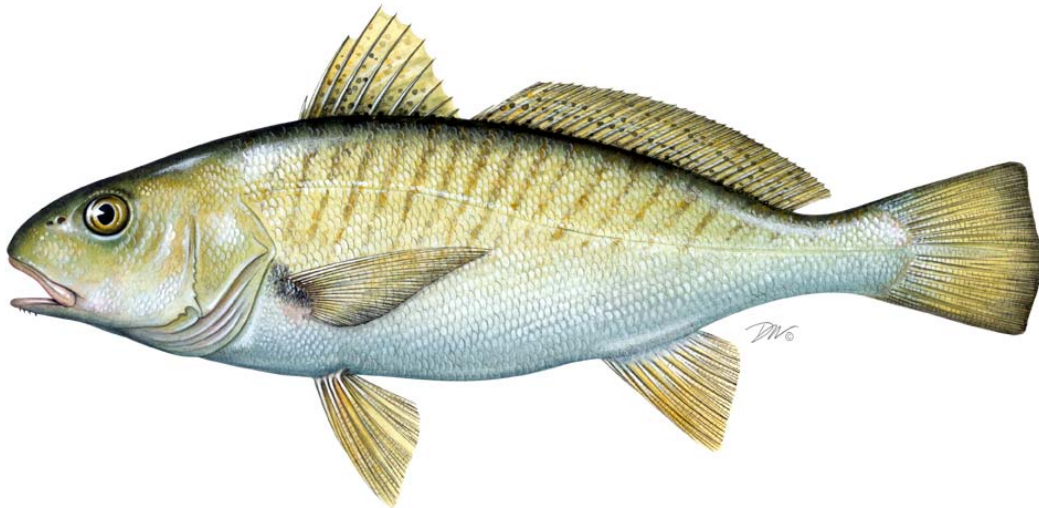


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Atlantic States Marine Fisheries Commission

DRAFT ADDENDUM III TO AMENDMENT 1 TO THE INTERSTATE FISHERY MANAGEMENT PLAN FOR ATLANTIC CROAKER

Revisions to Management using the Traffic Light Approach



This draft document was developed for Management Board review and discussion.

This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.

October 2019



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Draft Document for Board Review. Not for Public comment.

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Public Comment Process and Proposed Timeline

In May 2019, the South Atlantic State/Federal Fisheries Management Board initiated the development of an addendum to the Interstate Fishery Management Plan (FMP) for Atlantic Croaker to incorporate updates to the annual Traffic Light Analyses and associated management. This Draft Addendum presents background on the Atlantic States Marine Fisheries Commission’s (Commission) management of Atlantic croaker, the addendum process and timeline, and a statement of the problem. This document also provides management options for public consideration and comment.

The public is encouraged to submit comments regarding this document at any time during the public comment period. The final date comments will be accepted is **January XX, 2020 at 5:00 p.m.** Comments may be submitted at state public hearings or by mail, email, or fax. If you have any questions or would like to submit comment, please use the contact information below.

Mail: Dr. Michael Schmidtke, FMP Coordinator
Atlantic States Marine Fisheries Commission
1050 North Highland Street, Suite 200A-N
Arlington, VA 22201

Email: comments@asmfc.org
(Subject: Croaker Draft Addendum III)
Phone: (703) 842-0740
Fax: (703) 842-0741

Commission’s Process and Timeline

May 2019	South Atlantic Board Tasks PDT to Develop Draft Addendum III
May 2019 – October 2019	PDT Develops Draft Addendum III for Public Comment
October 2019	South Atlantic Board Review Draft Addendum III and Considers Its Approval for Public Comment
October 2019 – January 2020	Board Solicits Public Comment and States Conduct Public Hearings
February 2020	Board Reviews Public Comment, Selects Management Options and Considers Final Approval of Addendum III
TBD	Provisions of Addendum III are Implemented

1.0 INTRODUCTION

The Atlantic States Marine Fisheries Commission (ASMFC) is responsible for managing Atlantic croaker (*Micropogonias undulatus*) in state waters (0-3 miles from shore) under the authority of the Atlantic Coastal Fisheries Cooperative Management Act, and has done so through an interstate fishery management plan (FMP) since 1987. Atlantic croaker are currently managed under Amendment 1 (2005) to the FMP and Addenda I-II. The states of New Jersey through Florida have a declared interest in the fishery and are responsible for implementing management measures consistent with the interstate FMP as members of the South Atlantic State/Federal Fisheries Management Board (Board).

Addendum II established the Traffic Light Approach (TLA) as a precautionary management framework to evaluate fishery trends and develop management actions (ASMFC, 2014). The TLA was originally developed as a management tool for data-poor fisheries. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of population indicators. When a population characteristic improves, the proportion of green in the given year increases. When a population characteristic declines, the proportion of red in the given year increases. Harvest and abundance thresholds of 30% and 60% red were established in Addendum II, representing moderate and significant concern for the fishery. If thresholds for both population characteristics (harvest and abundance) meet or exceed a threshold for a two year period, then management action is required.

In recent years, the Atlantic croaker fishery has experienced significant declines in harvest, while such declines have not been evident in fishery-independent survey abundance indices used in the TLA. Furthermore, a 2017 stock assessment was not recommended for management use, due partially to conflicting signals between harvest and fishery-independent indices. These conflicting signals indicate that the harvest and fishery-independent characteristics may not be representing comparable aspects or components of the stock, thus making management advice from the TLA unclear.

In response to the recent TLA and assessment results, a 2018 report from the Atlantic Croaker Technical Committee (TC) recommended five updates to the TLA (ASMFC, 2018a). Additionally, a 2018 report from the Atlantic Croaker and Spot Plan Development Team (PDT) discussed how the management responses required by Addendum II could be updated to better reflect stock characteristics and develop more achievable management goals. Draft Addendum III addresses the recommendations of these documents by incorporating TC-recommended updates to the TLA analysis and considering changes to the TLA triggers and management responses.

2.0 OVERVIEW

2.1 Statement of the Problem

The TLA has been used since 2014 to monitor the Atlantic croaker population. The lack of a recent assessment approved for management use makes this approach the prominent source

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of management advice for this species. While strong declines in harvest and reports of poor fishing have prompted concern, management action has not been triggered through the TLA because similar declines have not been observed in abundance indices. These conflicting signals suggest that the current abundance indices used in the TLA may not adequately represent coastwide adult abundance and that the TLA may not be sensitive enough to trigger management action when changes to the fishery occur. Additionally, current management responses required by Addendum II lack specificity in terms of required measures and attainability in terms of requiring a percent reduction in harvest to achieve a percent increase in abundance. Draft Addendum III incorporates TC-recommended updates that improve the TLA analysis and considers alternatives to the current management triggers and responses.

2.2 Background

Atlantic croaker are small sciaenid forage species that support commercial and recreational fisheries in the Mid and South Atlantic regions. Atlantic croaker migrate seasonally along the coast, moving northward and inshore to estuaries and bays during warmer months (spring-fall) and southward and offshore to more oceanic waters in the winter. Atlantic croaker feed on planktonic organisms as post-larvae and young of the year, and as juveniles and adults they prey on bottom dwelling organisms such as worms and crustaceans. Atlantic croaker reach maturity by approximately age two and can live up to 17 years, but more commonly live no longer than 10 years.

2.2.1 Stock Status and Assessment

The most recent stock assessment, conducted in 2017, upon peer review was not recommended for management use. Therefore, current stock status is unknown, although the Peer Review Panel did not indicate problems in the Atlantic croaker fishery that would require immediate management action. The Peer Review Panel did recommend continued evaluation of the fishery using the annual TLA.

The last benchmark stock assessment for Atlantic croaker recommended for management use by a peer review was conducted in 2010. Unlike previous assessments it evaluated the resource as a single coastwide stock. The assessment indicated that the resource was not experiencing overfishing, biomass had increased, and age-structure had expanded since the late 1980s. However, it could not determine stock status given uncertain model estimates due to limited data on shrimp trawl discards and fishing mortality. Improvements on estimation of these discards were made in the 2017 assessment, allowing the potential for shrimp trawl discards to be included as supplemental information with the annual TLA. Annual monitoring of shrimp trawl fishery discards is important because these represent a considerable proportion of Atlantic croaker removals, ranging from 7% to 78% annually during 1988-2008, according to the 2010 assessment (ASMFC, 2010).

One of the reasons that the 2017 stock assessment was not approved for management use was due to conflicting signals in harvest and abundance characteristics. Theoretically, increases in

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adult abundance should result in more fish available to be caught by the fishery; thus, fishing would be more efficient (greater catch per unit effort) and harvest would increase in a pattern similar to adult abundance. However, several of the most recent abundance indices have shown increases while harvest has declined to some of the lowest levels on record. One factor that has been identified to contribute to overestimates of adult abundance is an increase in the number of juveniles misclassified as adults in surveys that historically have typically caught adults.

2.2.2 Traffic Light Approach as Applied to Atlantic Croaker

The TLA was originally developed as a precautionary management framework for data poor fisheries whereby reference points could be developed that would allow for a reasonable level of resource management. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of different indicators for either a fish population or a fishery. Examples of indicators include growth and reproduction parameters, abundance and stock biomass estimates, recreational harvest, commercial landings, or fishing mortality. Additionally, the indicators can be combined to form composite characteristics within similar categories (e.g. biological, population estimates, or combined fisheries harvest). However, each indicator must be evaluated separately to determine its appropriateness for use in management.

In general practice when applying the TLA, the green/yellow boundary is typically set at the average for a reference time period and the yellow/red boundary is set at 60% of the reference period average, which would indicate a 40% decline (Halliday et al., 2001). Index values in the intermediate zone can be represented by a mixture of either yellow/green or yellow/red depending on where they fall in the transition zone. Since increasing proportions of red reflect decreasing trends away from the reference period average, the relative proportion of red offers a way of determining if any management response is necessary.

For Atlantic croaker, the TLA is used to provide management guidance in between stock assessments. It has two components, a harvest characteristic, comprised of commercial landings and recreational harvest data, and an abundance characteristic, comprised of fishery-independent abundance indices. The TC annually runs the TLA and provides the results to the PRT for the annual FMP Review. To utilize the best data available, the TC and PRT are able to modify the TLA as needed through annual reviews and updates.

2.2.3 Recommended Changes to the TLA and Management Responses

Following the 2017 assessment, the Board tasked the TC with exploring potential updates to improve the TLA. The TC developed five recommendations (ASMFC, 2018a), which are listed below and are being considered for implementation through this addendum.

1. Incorporation of indices from the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) and the South Carolina Department of Natural Resources (SCDNR) Trammel Net Survey into the adult composite characteristic index, in addition to the currently used indices from the Northeast Fishery Science Center

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(NEFSC) Multispecies Bottom Trawl Survey and Southeast Area Monitoring and Assessment Program (SEAMAP).

2. Use of revised adult abundance indices from the surveys mentioned above, in which age-length keys and length composition information are used to estimate the number of adult (age 2+) individuals caught by each survey.
3. Use of regional metrics to characterize the fisheries north and south of the Virginia-North Carolina state border. The ChesMMAP and NEFSC surveys would be used to characterize abundance north of the border, and the SCDNR Trammel Net and SEAMAP surveys would be used to characterize abundance south of the border.
4. Change/establish the reference time period for all surveys to be 2002-2012.
5. Change the triggering mechanism to the following: Management action will be triggered according to the current 30% red and 60% red thresholds if both the abundance and harvest thresholds are exceeded in any 3 of the 4 terminal years.

Some of these changes, such as the selection of fishery-independent surveys used for the abundance characteristic, incorporation of age and length information, and establishment of a new reference time period are already allowed under Addendum II. Addendum III would retain the TC's ability to alter the TLA as needed to best represent trends in Atlantic croaker harvest and abundance, including selection of surveys and methods to analyze and evaluate these data. However, changes to the triggering mechanism are beyond the scope of Addendum II. Thus, they are considered for incorporation through Addendum III.

After considering the recommended changes to the TLA, the Board tasked the Atlantic Croaker and Spot PDT with exploring potential responses to management triggers that could result after incorporation of these updates (ASMFC, 2018b). The PDT noted that there are currently no coastwide management requirements for Atlantic croaker. Additionally, due to the strong association of Atlantic croaker abundance with environmental variables, their exhibition of cyclical abundance trends, and the apparent disconnect between Addendum II harvest and abundance characteristics, a reduction in harvest would not necessarily result in a proportional increase in abundance. Therefore, the PDT recommended establishment of base management measures that would reduce fishing impacts to not exacerbate periods of low abundance. Additionally, with the recommended updates incorporating regional TLAs, the PDT noted that this approach was developed to increase survey coverage throughout the stock, but Atlantic croaker are still a single, coastwide stock. Therefore, any management triggers resulting from regional TLAs should incorporate some form of response throughout the management unit.

2.2.4 Population Characteristics

The following figures show composite harvest characteristic TLA analyses for Atlantic croaker through 2018 using the methods of Addendum II (Figure 1) and those of Draft Addendum III (Figures 2 and 3). Changes to analyses being incorporated through Draft Addendum III are shown in bold font in the captions for Figures 2 and 3, including use of regional information and a different reference time period.

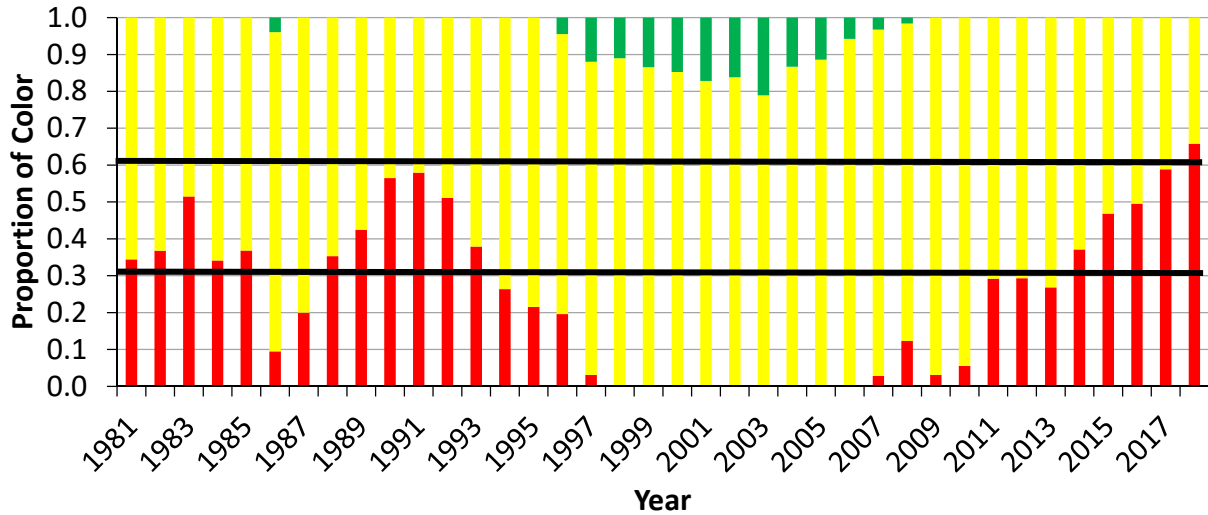


Figure 1. Addendum II Composite TLA analysis using commercial landings and recreational harvest for Atlantic croaker with management thresholds of 30% and 60% proportion red (reference period 1996 – 2008).

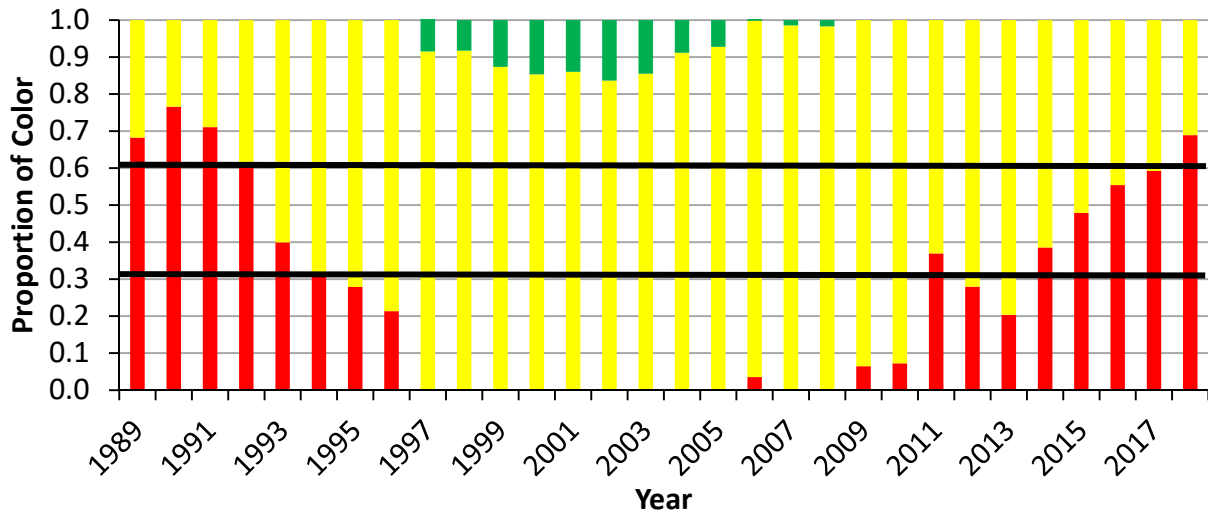


Figure 2. Draft Addendum III **Mid-Atlantic (NJ-VA) Regional** Composite TLA analysis using commercial landings and recreational harvest for Atlantic croaker with management thresholds of 30% and 60% proportion red (**reference period 2002 – 2012**).

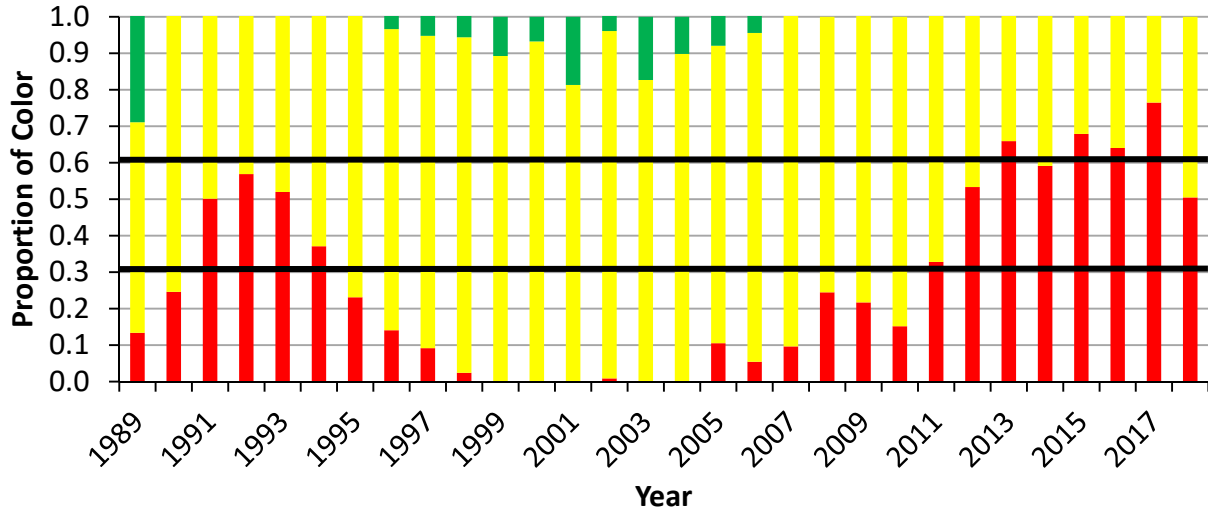


Figure 3. Draft Addendum III **South Atlantic (NC-FL) Regional** Composite TLA analysis using commercial landings and recreational harvest for Atlantic croaker with management thresholds of 30% and 60% proportion red (**reference period 2002 – 2012**).

The following figures show composite abundance characteristic TLA analyses for Atlantic croaker through 2018 using the methods of Addendum II (Figure 4) and those of Draft Addendum III (Figures 5 and 6). Changes to analyses being incorporated through Draft Addendum III are shown in bold font in the captions for Figures 5 and 6, including use of age and regional information and a different reference time period.

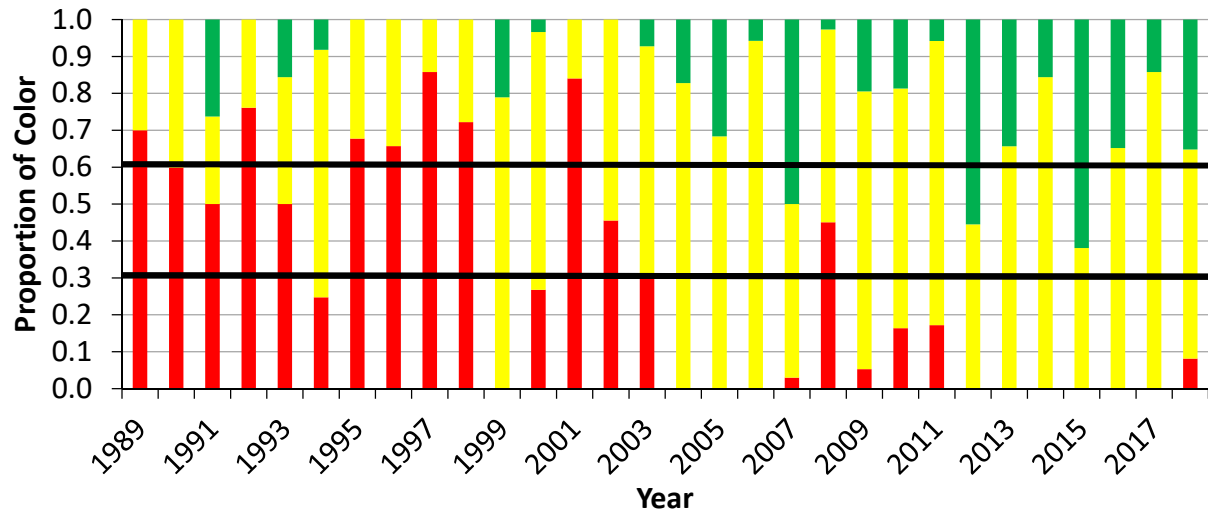


Figure 4. Addendum II Composite TLA analysis using fishery-independent survey indices (NEFSC Trawl Survey and SEAMAP) for Atlantic croaker with management thresholds of 30% and 60% proportion red (reference years 1996 – 2008).

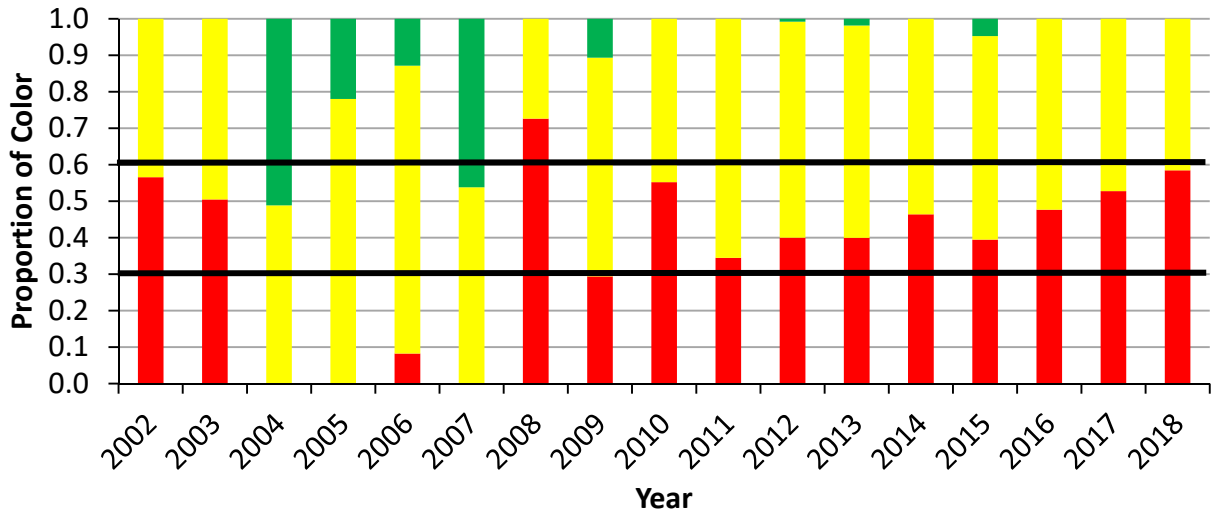


Figure 5. Draft Addendum III **Mid-Atlantic (NJ-VA) Regional** Composite TLA analysis using **age-specified** fishery-independent survey indices (NEFSC Trawl Survey and **ChesMMAP**) for Atlantic croaker with management thresholds of 30% and 60% proportion red (reference period 2002 – 2012).

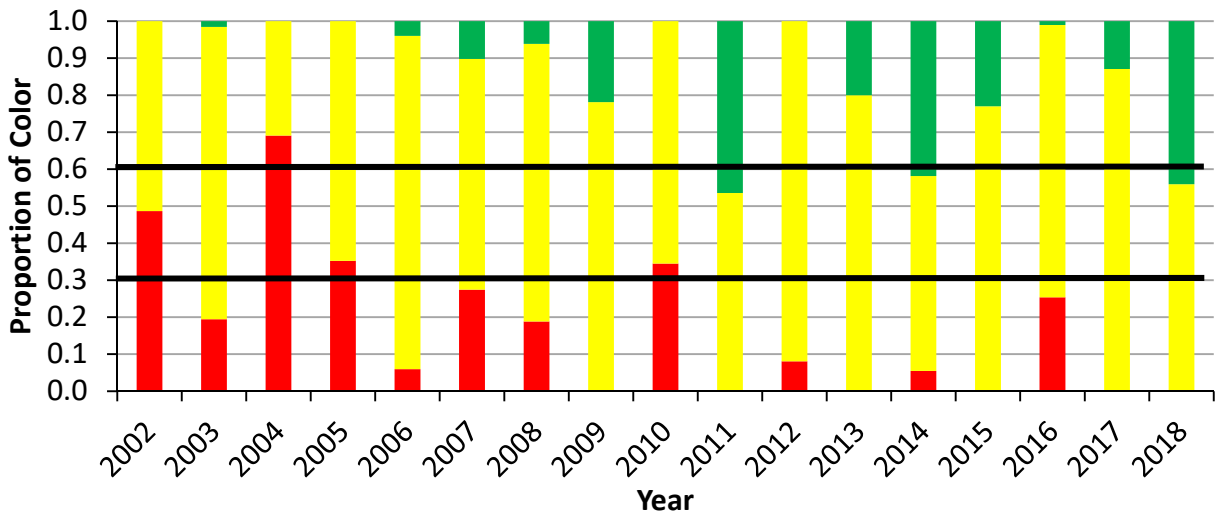


Figure 6. Draft Addendum III **South Atlantic (NC-FL) Regional** Composite TLA using **age-specified** fishery-independent survey indices (SEAMAP and **SCDNR Trammel Net Survey**) for Atlantic croaker with management thresholds of 30% and 60% proportion red (reference period 2002 – 2012).

3.0 PROPOSED MANAGEMENT PROGRAM

Changes to the management program would replace Section 3.0 of Addendum II to Amendment 1 to the Atlantic Croaker FMP.

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The following issues consider options for the TLA management triggering mechanism (Issue 1) and required management responses for the recreational (Issue 2) and commercial (Issue 3) fisheries. Recommended updates to the TLA analyses including additional fishery-independent survey indices, use of age information, use of regional characteristics, and changing the reference time period, will be incorporated into the TLA as part of this addendum, but are not considered with alternatives in the following issues as they apply the most current scientific advice, which is allowed under Addendum II. Draft Addendum III also retains the TC's ability to alter the TLA as needed to best represent trends in Atlantic croaker harvest and abundance.

3.1 Issue 1: Management Trigger Based on Proportion Red Options

Status quo is not included in either of the following options due to the incorporation of regional characteristics, which is based on the most current scientific advice. Option A is closest to status quo, as it retains the Addendum II trigger timeframe.

Option A. If red proportions for both population characteristics (adult abundance and harvest) in a regional, with both characteristics being for the same region, or a coastwide TLA meet or exceed the proportion of a threshold for the three terminal (most recent) years, then management action will be taken.

Option B. If red proportions for both population characteristics (adult abundance and harvest) in a regional, with both characteristics being for the same region, or a coastwide TLA meet or exceed the proportion of a threshold for any three of the four terminal years, then management action will be taken. (TC recommendation from *Section 2.2.3*)

Thresholds for both options are listed below:

30%- this represents moderate concern to the fishery with moderate management response

60%- this represents significant concern to the fishery with elevated management response

3.2 Management Response to Triggers

If management action has not been triggered according to *Section 3.1*, there will be no coastwide management requirements, in accordance with Amendment 1. States regulations restricting Atlantic croaker harvest are encouraged to be maintained.

Per the PDT recommendations and direction of the Board, TLA-triggered management response options were developed to reduce fishing impacts to not exacerbate periods of low abundance. As the TLA does not offer advice on overfished or overfishing status, resulting management responses are not designed to stop overfishing or recover an overfished stock. Such status designations should be evaluated through a stock assessment and responded to accordingly.

Recreational response alternatives include bag limits while commercial alternatives include seasons and percentage reductions. In developing these different regulatory responses, the

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PDT considered sector differences in gears, fishing behavior, and state regulations already in place.

If management action is triggered according to *Section 3.1*, the Draft Addendum proposes the following coastwide requirements (NOTE: the public is asked to identify its preferred option for both the recreational and commercial sectors):

3.2.1 Issue 2: Recreational Management Trigger Response Options

Option A. (Status Quo) The TC will recommend the appropriate percent reduction in recreational harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their fisheries. The application of an overall harvest percentage reduction would be proportional to the magnitude of exceeding the trigger, using a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

Option B. If management action is triggered by meeting or exceeding the 30% red threshold, all recreational non-*de minimis* states will be required to institute a bag limit of no more than 50 Atlantic croaker per person. If management action is triggered by meeting or exceeding the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 40 Atlantic croaker per person.

Option C. If management action is triggered by meeting or exceeding the 30% red threshold, all recreational non-*de minimis* states will be required to institute a bag limit of no more than 40 Atlantic croaker per person. If management action is triggered by meeting or exceeding the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 30 Atlantic croaker per person.

Option D. If management action is triggered by meeting or exceeding the 30% red threshold, all recreational non-*de minimis* states will be required to institute a bag limit of no more than 30 Atlantic croaker per person. If management action is triggered by an exceedance of the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 20 Atlantic croaker per person.

Under any option selected, states would be encouraged to maintain any measures already in place that are more restrictive than those required by this addendum.

De minimis states are those in which enforcement actions would be expected to contribute insignificantly to a coastwide conservation plan. Per *Section 4.4.3* of Amendment 1, states may apply for this status if, for the preceding three years for which data are available, their average commercial or recreational Atlantic croaker landings (by weight) constitute less than one percent of the average coastwide commercial or recreational Atlantic croaker landings for the same period. A state that qualifies for *de minimis* based on their commercial landings will qualify for exemptions in their commercial fishery only, and a state that qualifies for *de minimis*

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based on their recreational landings will qualify for exemptions in their recreational fishery only.

Recreational for-hire vessels may possess live Atlantic croaker for use as bait. The maximum number of Atlantic croaker allowed to be held onboard for this use prior to beginning a trip, during a trip or after a trip is completed will be the bag limit in effect multiplied by the number of customers allowed on the vessel. During a trip, the number of Atlantic croaker in possession to be harvested may not exceed the bag limit in effect multiplied by number of anglers onboard the vessel during the trip (any additional Atlantic croaker in possession, up to the limit stated above, must be those to be used as live bait). In this context, a trip is defined as a period of time in which fishing is conducted, beginning when the vessel leaves port and ending when the vessel returns to port. If no coastwide bag limit is in effect, then this use is not limited by this addendum.

Recreational private vessels that possess live Atlantic croaker for use as bait would be subject to personal bag limits of anglers on the vessel, with live fish possessed counting towards the bag limits. If no coastwide bag limit is in effect, then this use is not limited by this addendum.

3.2.2 Issue 3: Commercial Management Trigger Response Options

Option A. (Status Quo) The TC will recommend the appropriate percent reduction in commercial harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their fisheries. The application of an overall harvest percentage reduction would be proportional to the magnitude of exceeding the trigger, using a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

Option B. Include the following language defining commercial responses to triggers at the 30% and 60% thresholds, with selection of one of Sub-Options B1-B3.

30% Threshold (single option proposed)

If management action is triggered by meeting or exceeding the 30% red threshold, commercial non-*de minimis* states that do not already have a minimum size limit or possession limit will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) that reduce commercial harvest by 1% of the average state commercial harvest from the previous 10 years. States may establish differential measures by gear or area, as long as measures implemented are quantifiable and achieve the required 1% reduction for the entire state commercial harvest.

60% Threshold (choose one of Sub-Options B1-B3)

Sub-Option B1. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) that reduce commercial harvest by 5% of the average state commercial harvest from the previous 10 years.

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Sub-Option B2. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) that reduce commercial harvest by 10% of the average state commercial harvest from the previous 10 years.

Sub-Option B3. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) that reduce commercial harvest by 20% of the average state commercial harvest from the previous 10 years.

All restrictions established as required responses to TLA triggers must be evaluated to determine if they are both quantifiable and meet the objective reduction by the TC and approved by the Board prior to implementation.

3.2.3 Management Alternatives

If management action is triggered by meeting or exceeding the 60% red threshold and the Board determines more restrictive actions are necessary than those defined in *Sections 3.2.1* or *Section 3.2.2*, the Board may task the TC to determine an alternative reduction to the recreational or commercial fisheries. The TC will recommend the appropriate percent reduction in harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their state's fisheries. The application of an overall harvest percentage reduction may include use of a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

3.3 Issue 4: Evaluation of Fishery Response to Management Measures

Option A. (Status Quo) Management measures set in response to any trigger will remain in place for three years to promote consistent measures and allow for sufficient time to evaluate population response. Once management action has been taken, the thresholds will not be applied to the harvest characteristics in assessing the fishery for three years, as the fishery-dependent data may be influenced by management action.

Option B. Management measures set in response to any trigger will remain in place for at least three years to promote consistent measures and allow for sufficient time to evaluate population response. Once management action has been taken, the harvest characteristics will no longer be used to trigger management action, as the fishery-dependent data may be influenced by triggered measures. While triggered measures are in effect, a composite regional abundance characteristic, by itself, may trigger action at the next highest level of management response by the proportion red exceeding the next highest threshold in any three of the four terminal years.

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After a minimum of three years, once no composite regional abundance characteristics trigger management action at either threshold, triggered measures will no longer be required, and the TC will resume using the harvest characteristics as components of the TLA that would be required to trigger management action.

If triggered measures have remained in place for a minimum of four years due to proportions of red above a threshold for either of the composite regional abundance characteristics, the TC will, as part of conducting the annual TLA, evaluate trends in abundance to recommend to the Board whether triggered measures should remain in place or more restrictive measures should be considered.

4.0 COMPLIANCE

The management framework contained in *Section 3.0* of Addendum III to Amendment 1 is effective immediately upon its approval.

5.0 REFERENCES

- Atlantic States Marine Fisheries Commission (ASMFC). 2005. Amendment 1 to the Interstate Fishery Management Plan for Atlantic Croaker. Washington (DC): ASMFC. Fishery Management Report No. 44. 92 p.
- ASMFC. 2010. Atlantic Croaker 2010 Benchmark Stock Assessment. Washington (DC): ASMFC. 366 p.
- ASMFC. 2014. Addendum II to Amendment 1 to the Interstate Fishery Management Plan for Atlantic Croaker.
- ASMFC. 2018a. Memorandum 18-8: Recommended Updates to the Annual Traffic Light Analyses for Atlantic Croaker and Spot.
- ASMFC. 2018b. Memorandum 18-73: Recommendations for Management Response to Triggers from Updated Traffic Light Analyses.
- Halliday, R.G., L.P. Fanning, and R.K. Mohn. 2001. Use of the Traffic Light Method in Fishery Management Planning. Canadian Science Advisory Secretariat, Research Document No. 108. 41 p.

6.0 APPENDIX

To aid in public interpretation of TLA figures and results, the following figures depict components of Atlantic croaker TLA characteristics in a linear format with the long-term mean (average) (LTM) of the proposed reference period (2002-2012).

Commercial and Recreational Harvest

Commercial landings show a general declining trend has occurred since the late 1990s.

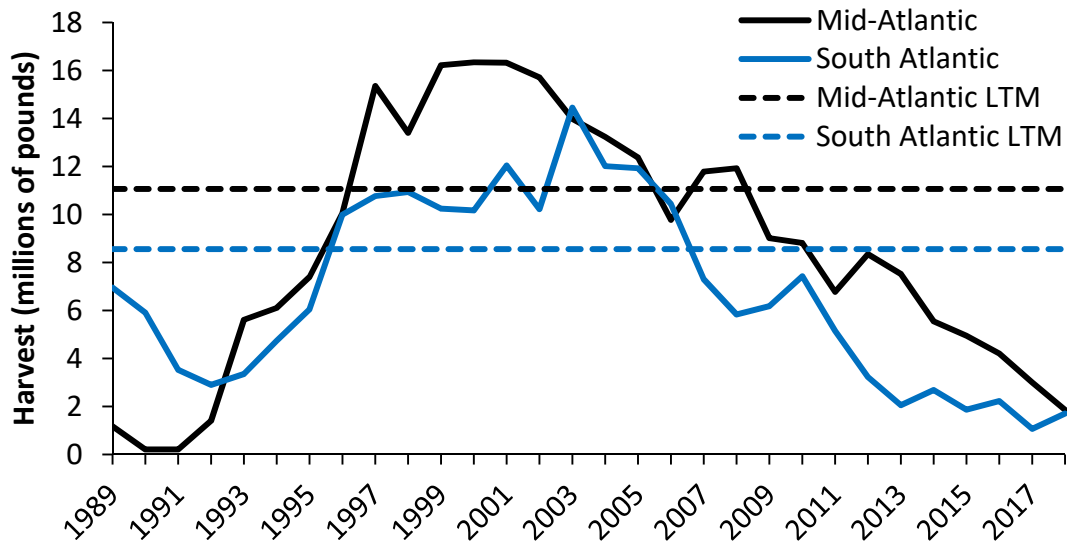


Figure A1. Commercial harvest and the LTM harvest for 2002-2012 in the Mid-Atlantic (NJ-VA) and South Atlantic (NC-FL) regions.

Mid-Atlantic recreational harvest shows an increase to a peak in the early 2000s, followed by a decline with values under its LTM since 2011. South Atlantic recreational harvest declined in the late 1980s and has remained low, varying about its LTM.

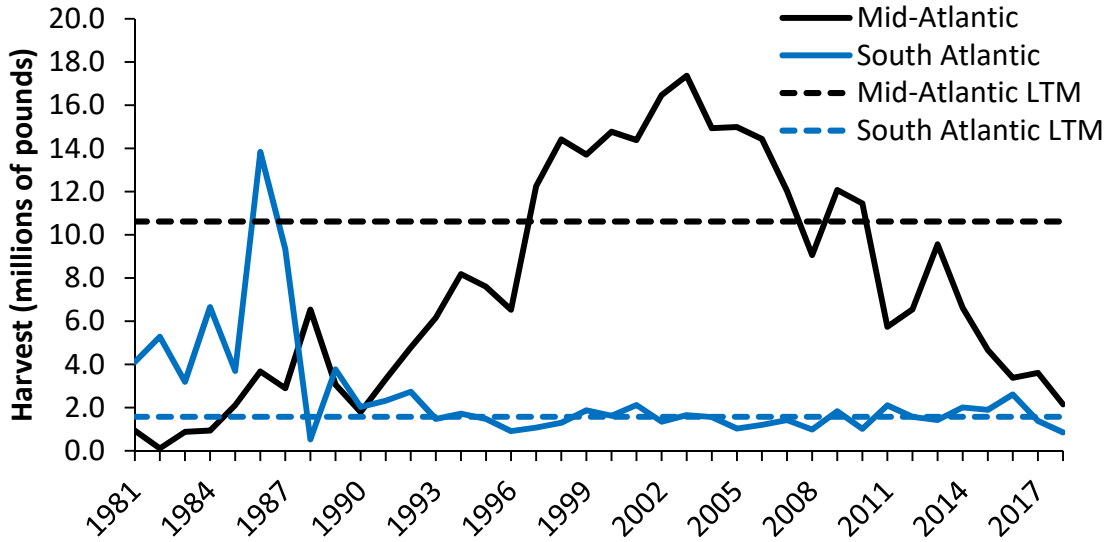


Figure A2. Recreational harvest and the LTM harvest for 2002-2012 in the Mid-Atlantic (NJ-VA) and South Atlantic (NC-FL) regions.

Abundance Indices

Mid-Atlantic

The Northeast Fishery Science Center (NEFSC) Multispecies Bottom Trawl Survey adult index has declined from its peak years (2007-2009), and general index levels have been below the LTM for the last three years.

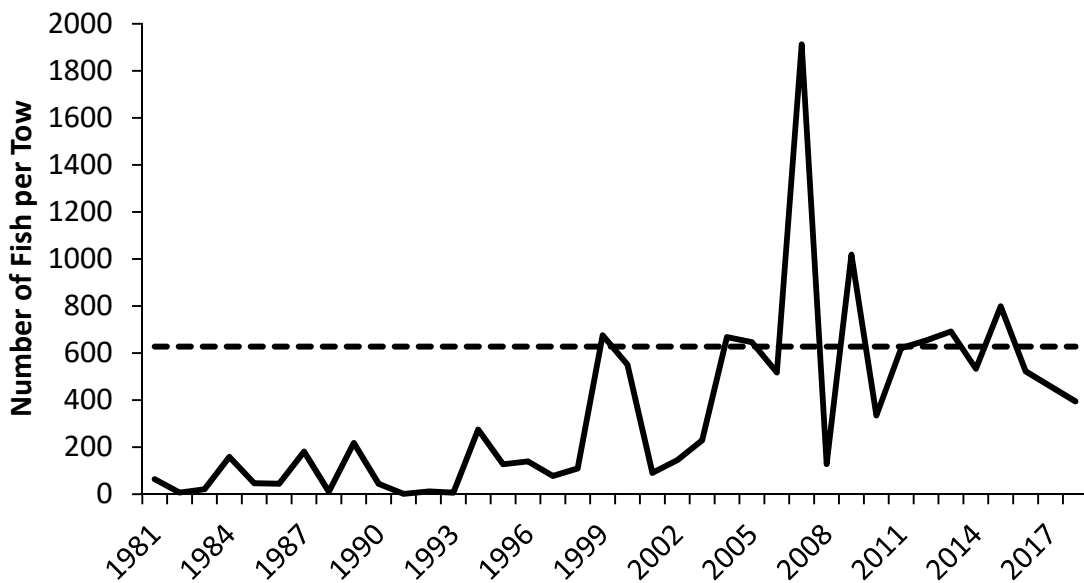


Figure A3. NEFSC adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

The Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) adult index shows a general long-term decline since the series peak in 2004.

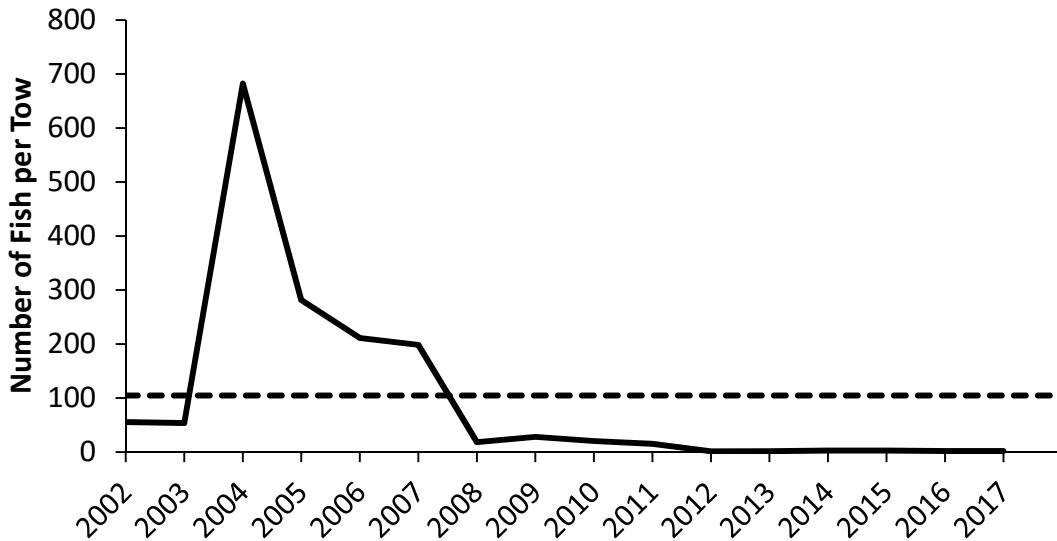


Figure A4. ChesMMAP adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

South Atlantic

The Southeast Area Monitoring and Assessment Program (SEAMAP) adult index shows a general increasing trend since the early 2000s.

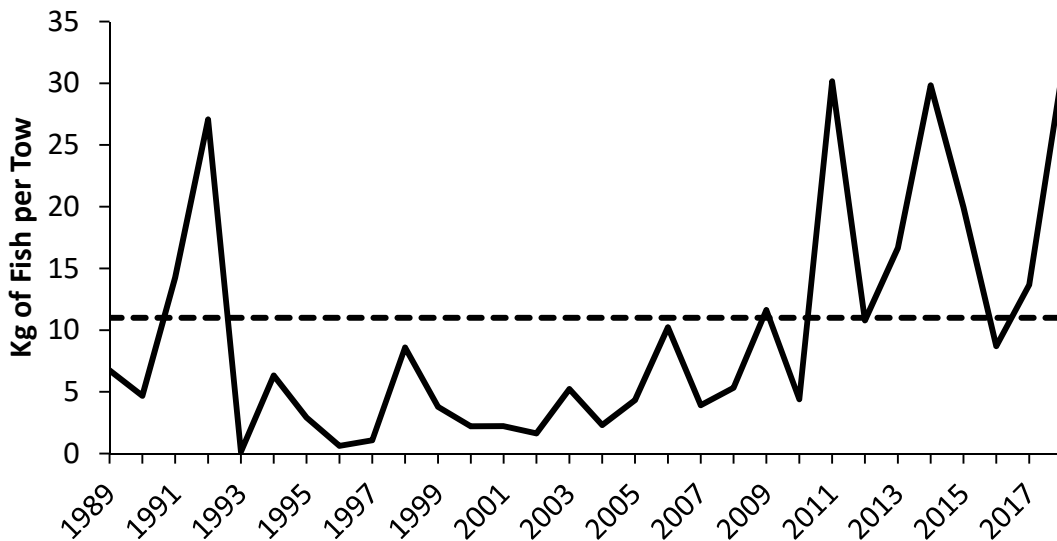


Figure A5. SEAMAP adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

The South Carolina Department of Natural Resources (SCDNR) Trammel Net Survey index shows a general declining trend since 2009 with annual values above and below the LTM.

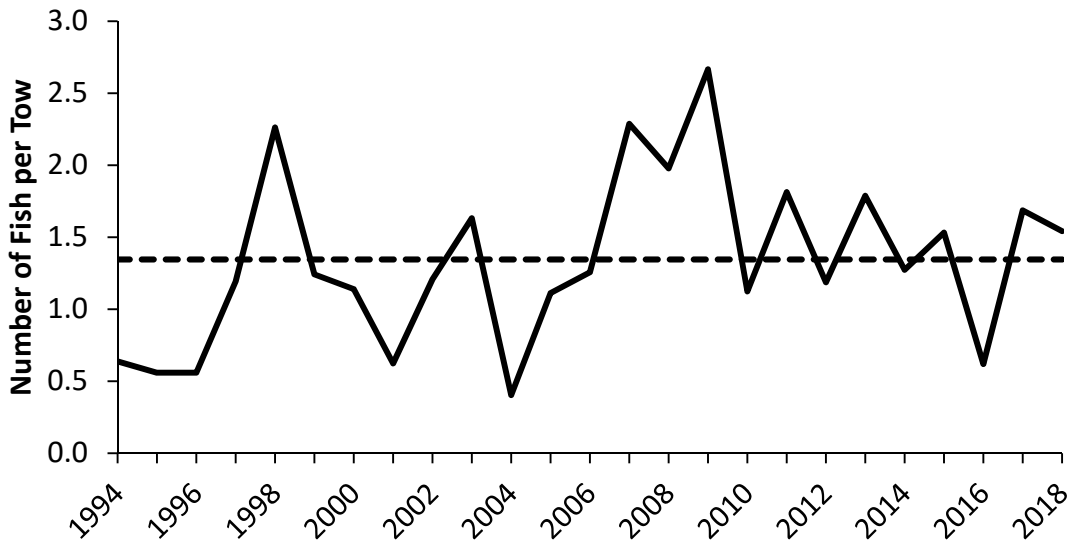


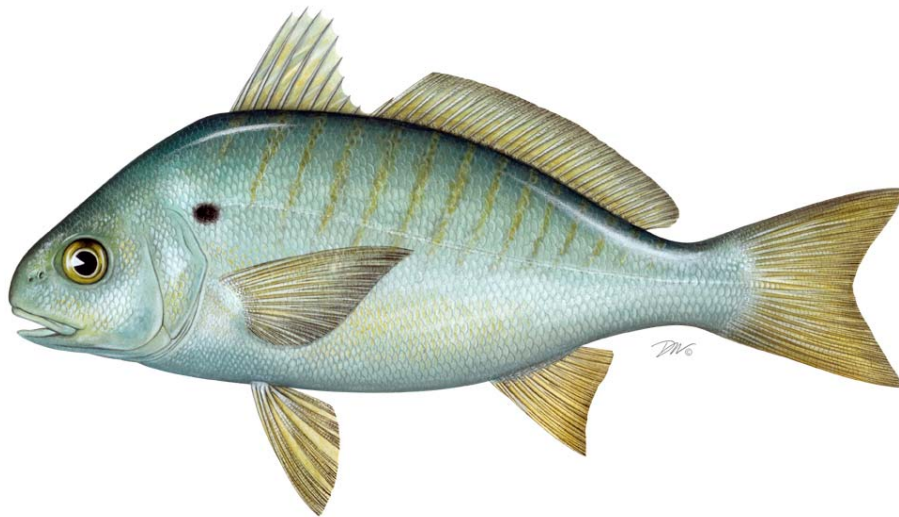
Figure A6. SCDNR adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

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Atlantic States Marine Fisheries Commission

DRAFT ADDENDUM III TO THE OMNIBUS AMENDMENT TO THE INTERSTATE FISHERY MANAGEMENT PLANS FOR SPANISH MACKEREL, SPOT, AND SPOTTED SEATROUT

Revisions to Spot Management using the Traffic Light Approach



This draft document was developed for Management Board review and discussion.

This document is not intended to solicit public comment as part of the Commission/State formal public input process. Comments on this draft document may be given at the appropriate time on the agenda during the scheduled meeting. If approved, a public comment period will be established to solicit input on the issues contained in the document.

October 2019



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Draft Document for Board Review. Not for Public comment.

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Public Comment Process and Proposed Timeline

In May 2019, the South Atlantic State/Federal Fisheries Management Board (Board) initiated the development of an addendum to the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout to incorporate updates to the annual Traffic Light Approach and associated management for spot. This Draft Addendum presents background on the Atlantic States Marine Fisheries Commission's (Commission) management of spot, the addendum process and timeline, and a statement of the problem. This document also provides management options for public consideration and comment.

The public is encouraged to submit comments regarding this document at any time during the public comment period. The final date comments will be accepted is **January XX, 2020 at 5:00 p.m.** Comments may be submitted at state public hearings or by mail, email, or fax. If you have any questions or would like to submit comment, please use the contact information below.

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Commission's Process and Timeline

May 2019	South Atlantic Board Tasks PDT to Develop Draft Addendum III
May 2019 – October 2019	PDT Develops Draft Addendum III for Public Comment
October 2019	South Atlantic Board Review Draft Addendum III and Considers Its Approval for Public Comment
October 2019 – January 2020	Board Solicits Public Comment and States Conduct Public Hearings
February 2020	Board Reviews Public Comment, Selects Management Options and Considers Final Approval of Addendum III
TBD	Provisions of Addendum III are Implemented

1.0 INTRODUCTION

The Atlantic States Marine Fisheries Commission (ASMFC) is responsible for managing spot (*Leiostomus xanthurus*) in state waters (0-3 miles from shore) under the authority of the Atlantic Coastal Fisheries Cooperative Management Act, and has done so through an interstate fishery management plan (FMP) since 1987. Spot are currently managed under the Omnibus Amendment (2011) to the Spot, Spotted Seatrout, and Spanish Mackerel FMPs and Addendum II. The states of New Jersey through Florida have a declared interest in the fishery and are responsible for implementing management measures consistent with the interstate FMP as members of the South Atlantic State/Federal Fisheries Management Board (Board).

Addendum II established the Traffic Light Approach (TLA) as a precautionary management framework to evaluate fishery trends and develop management actions (ASMFC, 2014). The TLA was originally developed as a management tool for data-poor fisheries. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of population indicators. When a population characteristic improves, the proportion of green in the given year increases. When a population characteristic declines, the proportion of red in the given year increases. Harvest and abundance thresholds of 30% and 60% red were established in Addendum II, representing moderate and significant concern for the fishery. If thresholds for both population characteristics (harvest and abundance) meet or exceed a threshold for a two year period, then management action is required.

In recent years, the spot fishery has experienced significant declines in harvest, while such declines have not been evident in fishery-independent survey abundance indices used in the TLA. Furthermore, a 2017 stock assessment was not recommended for management use, due partially to conflicting signals between harvest and fishery-independent indices. These conflicting signals indicate that the harvest and fishery-independent characteristics may not be representing comparable aspects or components of the stock, thus making management advice from the TLA unclear.

In response to the recent TLA and assessment results, a 2018 report from the Spot Plan Review Team (PRT) recommended five updates to the TLA (ASMFC, 2018a). Additionally, a 2018 report from the Atlantic Croaker and Spot Plan Development Team (PDT) discussed how the management responses required by Addendum II could be updated to better reflect stock characteristics and develop more achievable management goals. Draft Addendum III addresses the recommendations of these documents by incorporating TC-recommended updates to the TLA analysis and considering changes to the TLA triggers and management responses.

2.0 OVERVIEW

2.1 Statement of the Problem

The TLA has been used since 2014 to monitor the spot population. The lack of a recent assessment approved for management use makes this approach the prominent source of

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management advice for this species. While strong declines in harvest and reports of poor fishing have prompted concern, management action has not been triggered through the TLA because similar declines have not been observed in abundance indices. These conflicting signals suggest that the current abundance indices used in the TLA may not adequately represent coastwide adult abundance and that the TLA may not be sensitive enough to trigger management action when changes to the fishery occur. Additionally, current management responses required by Addendum II lack specificity in terms of required measures and attainability in terms of requiring a percent reduction in harvest to achieve a percent increase in abundance. Draft Addendum III incorporates PRT-recommended updates that improve the TLA analysis and considers alternatives to the current management triggers and responses.

2.2 Background

Spot are a small sciaenid forage species that support commercial and recreational fisheries in the Mid- and South Atlantic regions. Spot migrate seasonally along the coast, moving northward and inshore to estuaries and bays during warmer months (spring-fall) and southward and offshore to more oceanic waters in the winter. Spot feed on planktonic organisms as post-larvae and young-of-the-year, and as juveniles and adults prey on bottom dwelling organisms such as worms and crustaceans. Spot reach maturity by approximately age two and are considered a short-lived species, rarely living beyond six years.

2.2.1 Stock Status and Assessment

While state level stock assessments for spot have been conducted over the years, a coastwide benchmark assessment has not been approved for management use. The most recent coastwide assessment, conducted in 2017, was not recommended for management use by the Peer Review Panel. Therefore, current stock status is unknown, although the Peer Review Panel did not indicate problems in the spot fishery that would require immediate management action. The Peer Review Panel did recommend continued evaluation of the fishery using the annual TLA.

One of the reasons the 2017 stock assessment was not approved for management use was due to conflicting signals in harvest and abundance characteristics. Theoretically, increases in adult abundance should result in more fish available to be caught by the fishery; thus, fishing would be more efficient (greater catch per unit effort) and harvest would increase in a pattern similar to adult abundance. However, several of the most recent abundance indices have shown increases while harvest has declined to some of the lowest levels on record. One factor that has contributed to overestimates of adult abundance is an increase in the number of juveniles misclassified as adults in surveys that historically have typically caught adults.

2.2.2 Traffic Light Approach as Applied to Spot

The TLA was originally developed as a precautionary management framework for data poor fisheries whereby reference points could be developed that would allow for a reasonable level

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of resource management. The name comes from assigning a color (red, yellow, or green) to categorize relative levels of different indicators for either a fish population or a fishery. Examples of indicators include growth and reproduction parameters, abundance and stock biomass estimates, recreational harvest, commercial landings, or fishing mortality. Additionally, the indicators can be combined to form composite characteristics within similar categories (e.g. biological, population estimates, or combined fisheries harvest). However, each indicator must be evaluated separately to determine its appropriateness for use in management.

In general practice when applying the TLA, the green/yellow boundary is typically set at the average for a reference time period and the yellow/red boundary is set at 60% of the reference period average, which would indicate a 40% decline (Halliday et al., 2001). Index values in the intermediate zone can be represented by a mixture of either yellow/green or yellow/red depending on where they fall in the transition zone. Since increasing proportions of red reflect decreasing trends away from the reference period average, the relative proportion of red offers a way of determining if any management response is necessary.

For spot, the TLA is used to provide management guidance in between stock assessments. It has two components, a harvest characteristic, comprised of commercial landings and recreational harvest data, and an abundance characteristic, comprised of fishery-independent abundance indices. The PRT annually runs the TLA and includes the results in the annual FMP Review. To utilize the best data available, the PRT is able to modify the TLA as needed through annual reviews and updates.

2.2.3 Recommended Changes to the TLA and Management Responses

Following the failed assessment in 2017, the Board tasked the Spot PRT with exploring potential updates to improve the TLA. The PRT developed five recommendations (ASMFC, 2018a), which are listed below and are being considered for implementation through this Draft Addendum.

1. Incorporation of indices from the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAAP) and the North Carolina Division of Marine Fisheries (NCDMF) Pamlico Sound Survey, into the adult composite characteristic index, in addition to the currently used indices from the Northeast Fisheries Science Center (NEFSC) Multispecies Bottom Trawl Survey and the South Atlantic component of the Southeast Area Monitoring and Assessment Program (SEAMAP).
2. Use of revised adult abundance indices from the surveys mentioned above, in which age-length keys and length composition information are used to estimate the number of adult (age 1+) individuals caught by each survey.
3. Use of regional metrics to characterize the fisheries north and south of the Virginia-North Carolina state border. The ChesMMAAP and NEFSC surveys would be used to characterize abundance north of the border, and the NCDMF Program 195 and SEAMAP surveys would be used to characterize abundance south of the border.
4. Change/establish the reference time period for all surveys to be 2002-2012.

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5. Change the triggering mechanism to the following: Management action will be triggered according to the current 30% and 60% red thresholds if both the abundance and harvest thresholds are exceeded in any 2 of the 3 terminal years.

Some of these changes, such as the selection of fishery-independent surveys used for the abundance characteristic, incorporation of age and length information, and establishment of a new reference time period are already allowed under Addendum II. However, changes to the triggering mechanism are beyond the scope of Addendum II. Thus, they are considered for incorporation through Draft Addendum III. Draft Addendum III proposes the establishment of a Spot Technical Committee (TC) with the ability to alter the TLA as needed to best represent trends in spot harvest and abundance, including selection of surveys and methods to analyze and evaluate these data. The TC would also evaluate implementation of management responses triggered through the TLA.

After considering the recommended changes to the TLA, the Board tasked the Atlantic Croaker and Spot PDT with exploring potential responses to management triggers that could result after incorporation of these updates (ASMFC, 2018b). The PDT noted that there are currently no coastwide management requirements for spot. Additionally, because of a lack of information on environmental impacts on spot abundance or harvest and the apparent disconnect between Addendum II harvest and abundance characteristics, a reduction in harvest may not necessarily result in a proportional increase in abundance. Therefore, the PDT recommended establishment of base management measures that would reduce fishing impacts so as to not exacerbate periods of low abundance. Additionally, with the recommended updates incorporating regional TLAs, the PDT noted this approach was developed to increase survey coverage and sensitivity, but spot are still a single, coastwide stock. Therefore, any management triggers resulting from regional TLAs should incorporate some form of response throughout the management unit.

2.2.4 Population Characteristics

The following figures show composite harvest characteristic TLA analyses for spot through 2018 using the methods from Addendum II (Figure 1) and those proposed in Draft Addendum III (Figures 2 and 3). Changes to analyses being incorporated through Draft Addendum III are shown in bold font in the captions for Figures 2 and 3, including use of regional information and a different reference time period.

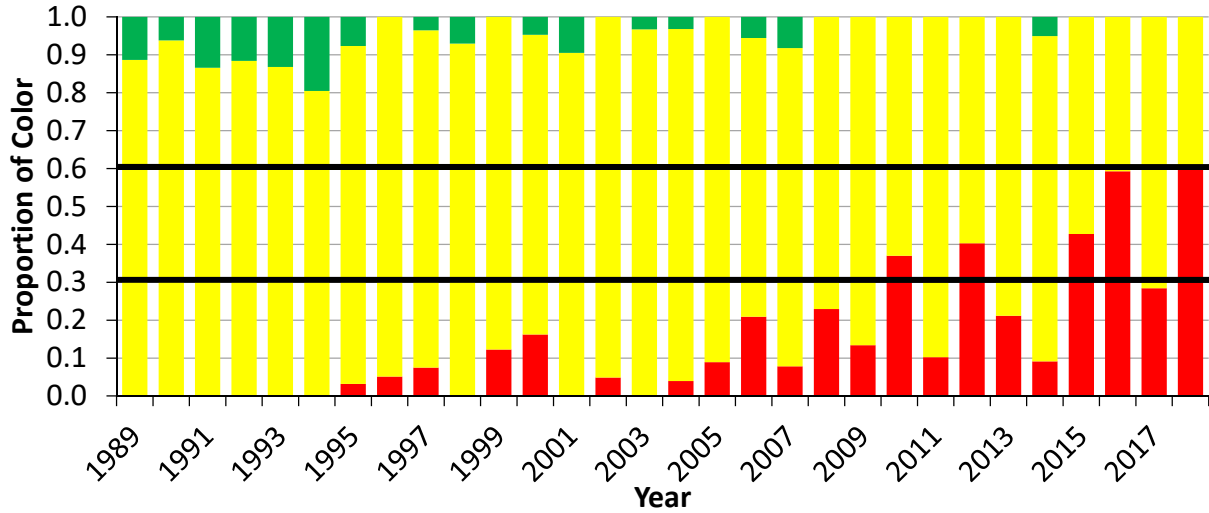


Figure 1. Addendum II Composite TLA using commercial landings and recreational harvest for spot with 30% and 60% red management thresholds (reference years 1989 – 2012).

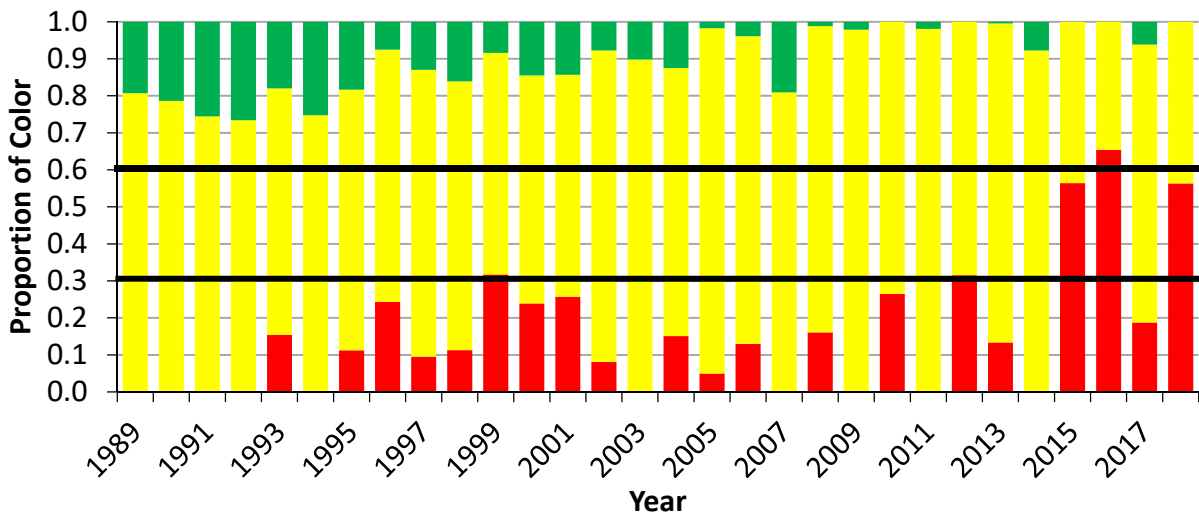


Figure 2. Draft Addendum III Mid-Atlantic (NJ-VA) Regional Composite TLA using commercial landings and recreational harvest for spot with 30% and 60% red management thresholds (reference years 2002 – 2012).

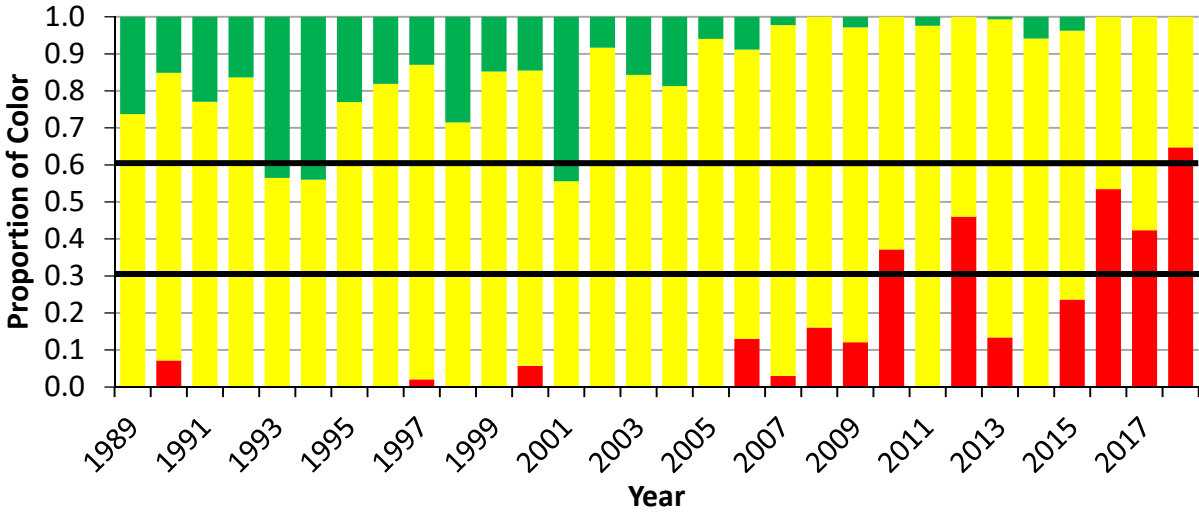


Figure 3. Draft Addendum III **South Atlantic (NC-FL) Regional** Composite TLA using commercial landings and recreational harvest for spot with 30% and 60% red management thresholds (reference years 2002 – 2012).

The following figures show composite abundance characteristic TLA analyses for spot through 2018 using the methods from Addendum II (Figure 4) and those proposed in Draft Addendum III (Figures 5 and 6). Changes to analyses being incorporated through Draft Addendum III are shown in bold font in the captions for Figures 5 and 6, including use of age and regional information and a different reference time period.

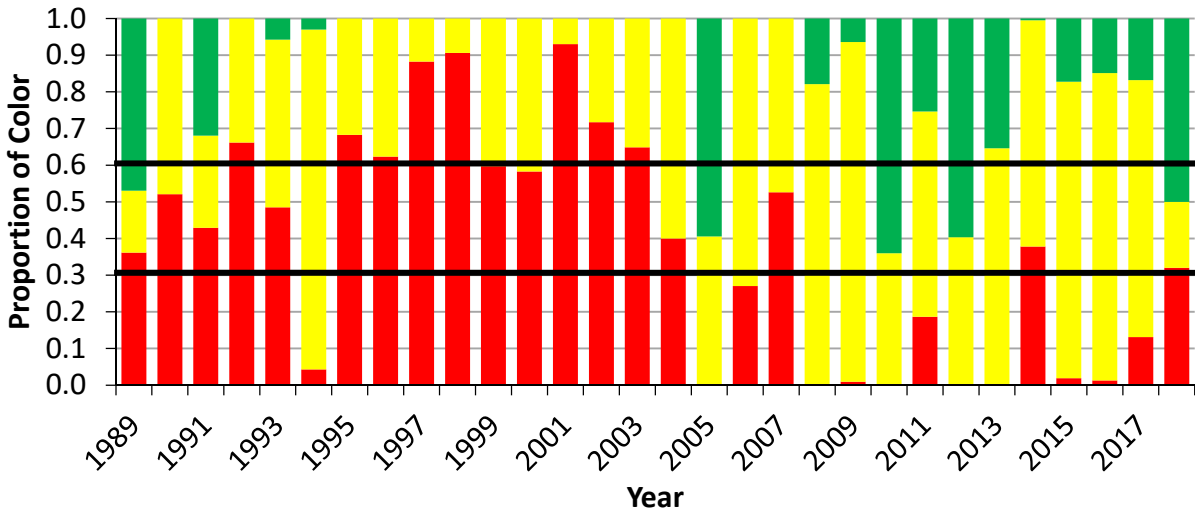


Figure 4. Addendum II Composite TLA using fishery-independent survey indices (NEFSC Trawl Survey and SEAMAP) for spot with 30% and 60% red management thresholds (reference period years 1989 – 2012).

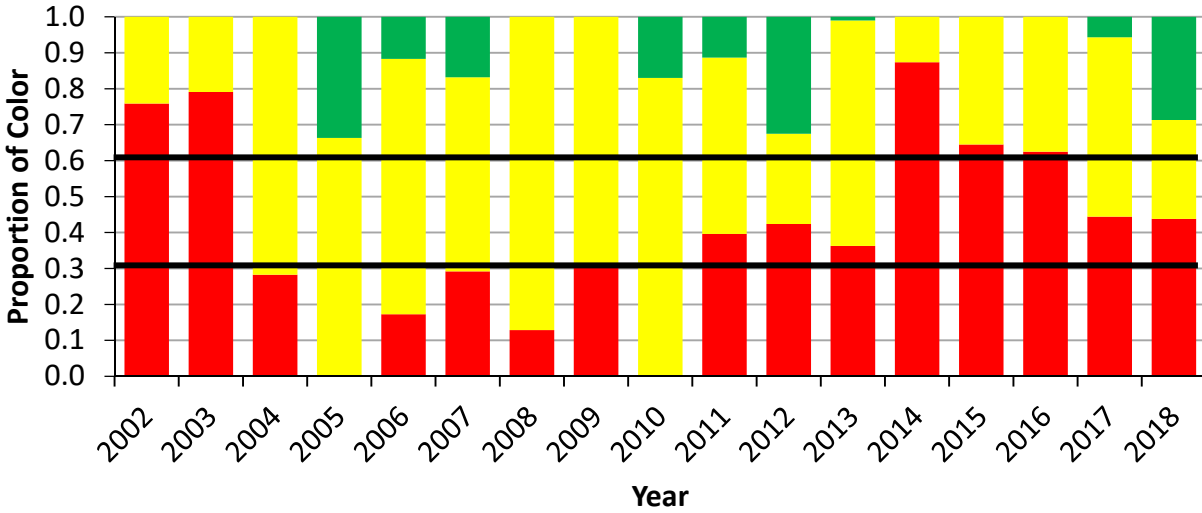


Figure 5. Draft Addendum III **Mid-Atlantic (NJ-VA) Regional** Composite TLA using **age-specified** fishery-independent survey indices (NEFSC Trawl Survey and **ChesMMAP**) for spot with 30% and 60% red management thresholds (**reference period years 2002 – 2012**).

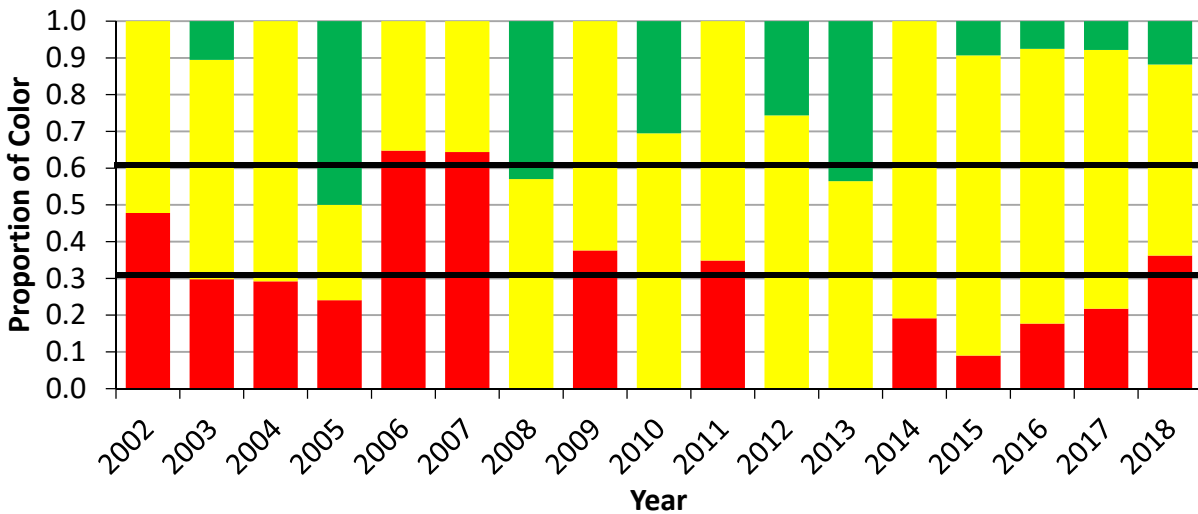


Figure 6. Draft Addendum III **South Atlantic (NC-FL) Regional** Composite TLA using **age-specified** fishery-independent survey indices (SEAMAP and **NCDMF**) for spot with 30% and 60% red management thresholds (**reference period years 2002 – 2012**).

3.0 PROPOSED MANAGEMENT PROGRAM

Changes to the management program would replace Section 3.0 of Addendum II to the Omnibus Amendment to the Interstate FMPs for Spanish Mackerel, Spot, and Spotted Seatrout.

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The following issues consider options for the TLA management triggering mechanism (Issue 1) and required management responses for the recreational (Issue 2) and commercial (Issue 3) fisheries. Recommended updates to the TLA analyses including additional fishery-independent survey indices, use of age information, use of regional characteristics, and changing the reference time period, will be incorporated into the TLA as part of this addendum, but are not considered with alternatives in the following issues as they apply the most current scientific advice, which is allowed under Addendum II. Draft Addendum III also retains the TC's ability to alter the TLA as needed to best represent trends in spot harvest and abundance.

3.1 Issue 1: Management Trigger Based on Proportion Red

Staus quo is not included in either of the following options due to the incorporation of regional characteristics, which is based on the most current scientific advice. Option A is closest to status quo, as it retains the Addendum II trigger timeframe.

Option A. If red proportions for both population characteristics (adult abundance and harvest) in a specific regional or a coastwide TLA meet or exceed the proportion of a threshold for the two terminal (most recent) years, then management action shall be required.

Option B. If red proportions for both population characteristics (adult abundance and harvest) in a specific regional or a coastwide TLA meet or exceed the proportion of a threshold for any two of the three terminal years, then management action shall be required. (PRT recommendation from *Section 2.2.3*)

Thresholds for both options are listed below:

30% - this represents moderate concern to the fishery with moderate management response

60% - this represents significant concern to the fishery with elevated management response

3.2 Management Response to Triggers

If management action has not been triggered according to *Section 3.1*, there will be no coastwide management requirements, in accordance with the Omnibus Amendment. States regulations restricting spot harvest are encouraged to be maintained.

Per the PDT recommendations and direction of the Board, TLA-triggered management response options were developed to reduce fishing impacts to not exacerbate periods of low abundance. As the TLA does not offer advice on overfished or overfishing status, resulting management responses are not designed to stop overfishing or recover an overfished stock. Such status designations should be evaluated through a stock assessment and responded to accordingly.

If management action is triggered according to *Section 3.1*, the Draft Addendum proposes the following coastwide requirements (NOTE: the public is asked to identify its preferred option for both the recreational and commercial sectors):

3.2.1 Issue 2: Recreational Management Trigger Response Options

Option A. (Status Quo) The PRT will recommend the appropriate percent reduction in recreational harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their fisheries. The application of an overall harvest percentage reduction would be proportional to the magnitude of exceeding the trigger, using a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

Option B. If management action is triggered by meeting or exceeding the 30% red threshold, all non-*de minimis* states will be required to institute a bag limit of no more than 50 spot per person. If management action is triggered by meeting or exceeding the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 40 spot per person.

Option C. If management action is triggered by meeting or exceeding the 30% red threshold, all non-*de minimis* states will be required to institute a bag limit of no more than 40 spot per person. If management action is triggered by meeting or exceeding the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 30 spot per person.

Option D. If management action is triggered by meeting or exceeding the 30% red threshold, all non-*de minimis* states will be required to institute a bag limit of no more than 30 spot per person. If management action is triggered by meeting or exceeding the 60% threshold, all states (including *de minimis*) will be required to institute a bag limit of no more than 20 spot per person.

De minimis states are those in which enforcement actions would be expected to contribute insignificantly to a coastwide conservation plan. Per *Section 4.4.3* of the Omnibus Amendment, states may apply for this status if, for the preceding three years for which data are available, their average combined commercial and recreational spot landings (by weight) constitute less than one percent of the average combined coastwide commercial and recreational spot landings for the same period.

Recreational for-hire vessels may possess live spot for use as bait. The maximum number of spot allowed to be held onboard for this use prior to beginning a trip, during a trip or after a trip is completed will be the bag limit in effect multiplied by the number of customers allowed on the vessel. During a trip, the number of spot in possession to be harvested may not exceed the bag limit in effect multiplied by number of anglers onboard the vessel during the trip (any additional spot in possession, up to the limit stated above, must be those to be used as live bait). In this context, a trip is defined as a period of time in which fishing is conducted, beginning when the vessel leaves port and ending when the vessel returns to port. If no coastwide bag limit is in effect, then this use is not limited by this addendum.

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Recreational private vessels that possess live spot for use as bait would be subject to personal bag limits of anglers on the vessel, with live fish possessed counting towards the bag limits. If no coastwide bag limit is in effect, then this use is not limited by this addendum.

3.2.2 Issue 3: Commercial Management Trigger Response Options

Option A. (Status Quo) The PRT will recommend the appropriate percent reduction in commercial harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their fisheries. The application of an overall harvest percentage reduction would be proportional to the magnitude of exceeding the trigger, using a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

Option B. Include the following language defining commercial responses to triggers at the 30% and 60% thresholds, with selection of one of Sub-Options B1-B3.

30% Red Threshold (single option proposed)

If management action is triggered by meeting or exceeding the 30% red threshold, non-*de minimis* states that do not already have a minimum size limit or possession limit will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) to reduce commercial harvest by 1% of the average state commercial harvest from the previous 10 years. States may establish differential measures by gear or area, as long as measures implemented are quantifiable and achieve the required 1% reduction for the entire state commercial harvest.

60% Red Threshold (choose one of Sub-Options B1-B3)

Sub-Option B1. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) to reduce commercial harvest by 5% of the average state commercial harvest from the previous 10 years.

Sub-Option B2. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) to reduce commercial harvest by 10% of the average state commercial harvest from the previous 10 years.

Sub-Option B3. If management action is triggered by meeting or exceeding the 60% red threshold, all states (including *de minimis*) will be required to institute quantifiable measures (e.g. season, trip limit, or size limit) to reduce commercial harvest by 20% of the average state commercial harvest from the previous 10 years.

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All restrictions established as required responses to TLA triggers must be evaluated to determine if they are both quantifiable and meet the objective reduction by the TC and approved by the Board prior to implementation.

3.2.3 Technical Committee

This Draft Addendum proposes the establishment of a Spot TC to provide scientific and technical advice, as defined in *Section 4.7.4* of the Omnibus Amendment. This advice would include evaluation of plans to implement management actions. All seasonal restrictions established as required responses to TLA triggers must be reviewed by the TC and approved by the Board prior to implementation.

3.2.4 Management Alternatives

If management action is triggered by meeting or exceeding the 60% red threshold and the Board determines more restrictive actions are necessary than those defined in *Sections 3.2.1* or *Section 3.2.2*, the Board may task the TC to determine an alternative reduction to the recreational or commercial fisheries. The TC will recommend the appropriate percent reduction in harvest needed and state-by-state measures to achieve the harvest reduction for approval by the Board. This allows the states to meet the individual needs of their state's fisheries. The application of an overall harvest percentage reduction may include use of a combination of management tools that include size limits, bag/trip limits, seasonal closures, and gear restrictions.

3.3 Issue 4: Evaluation of Fishery Response to Management Measures

Option A. (Status Quo) Management measures set in response to any trigger will remain in place for two years to promote consistent measures and allow for sufficient time to evaluate population response. Once management action has been taken, the thresholds will not be applied to the harvest characteristics in assessing the fishery for two years, as the fishery-dependent data may be influenced by management action.

Option B. Management measures set in response to any trigger will remain in place for at least two years to promote consistent measures and allow for sufficient time to evaluate population response. Once management action has been taken, the harvest characteristics will no longer be used to trigger management action, as the fishery-dependent data may be influenced by triggered measures. While triggered measures are in effect, a composite regional abundance characteristic, by itself, may trigger action at the next highest level of management response by the proportion red exceeding the next highest threshold in any two of the three terminal years.

After a minimum of two years, once no composite regional abundance characteristics trigger management action at either threshold, triggered measures will no longer be

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required, and the TC will resume using the harvest characteristics as components of the TLA that would be required to trigger management action.

If triggered measures have remained in place for a minimum of three years due to proportions of red above a threshold for either of the composite regional abundance characteristics, the TC will, as part of conducting the annual TLA, evaluate trends in abundance to recommend to the Board whether triggered measures should remain in place or more restrictive measures should be considered.

4.0 COMPLIANCE

The management framework contained in *Section 3.0* of Addendum III to the Omnibus Amendment is effective immediately upon Addendum III's approval.

5.0 REFERENCES

- Atlantic States Marine Fisheries Commission (ASMFC). 1987. [Fishery Management Plan for Spot](#). Washington (DC): ASMFC. Fisheries Management Report #11. 90 p.
- ASMFC. 2011. [Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout](#). Arlington (VA): ASMFC. 161 p.
- ASMFC. 2014. Addendum I to the Omnibus Amendment to the Interstate Fishery Management Plans for Spanish Mackerel, Spot, and Spotted Seatrout.
- ASMFC. 2018a. [Memorandum 18-8: Recommended Updates to the Annual Traffic Light Analyses for Atlantic Croaker and Spot](#).
- ASMFC. 2018b. Memorandum 18-73: Recommendations for Management Response to Triggers from Updated Traffic Light Analyses.
- Halliday, R.G., L.P. Fanning, and R.K. Mohn. 2001. Use of the Traffic Light Method in Fishery Management Planning. Canadian Science Advisory Secretariat, Research Document No. 108. 41 p.

6.0 APPENDIX

To aid in public interpretation of TLA figures and results, the following figures depict components of spot TLA characteristics in a linear format with the long-term mean (average) (LTM) of the proposed reference period (2002-2012).

Commercial and Recreational Harvest

Commercial landings show general declining trends in both regions with greater variability in the Mid-Atlantic.

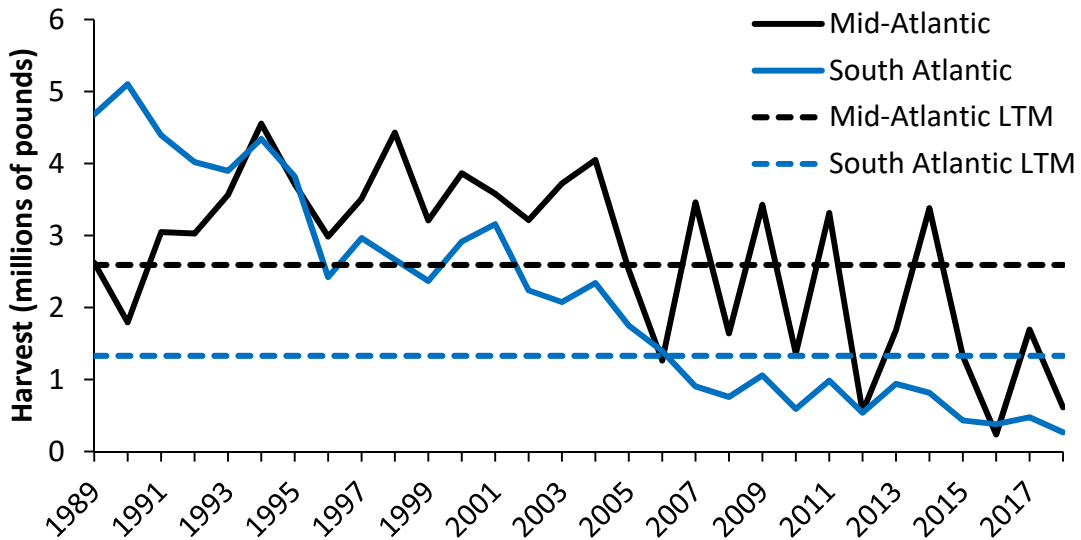


Figure A1. Commercial harvest and the LTM harvest for 2002-2012 in the Mid-Atlantic (NJ-VA) and South Atlantic (NC-FL) regions.

Recreational harvest shows a highly variable trend in the Mid-Atlantic, with most of the last ten years near or below the LTM. South Atlantic recreational harvest shows a declining trend with most of the last ten years near or below the LTM.

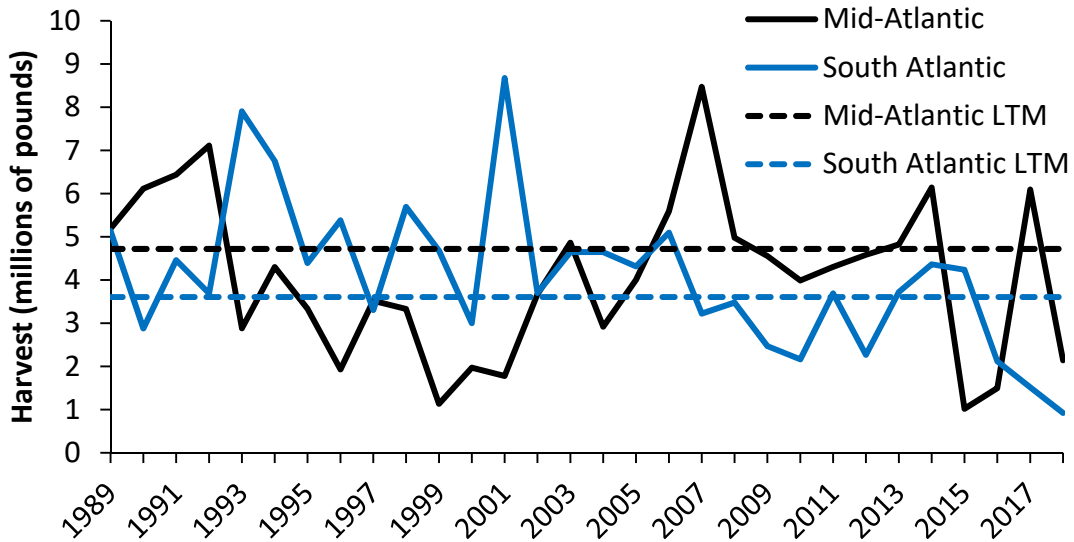


Figure A2. Recreational harvest and the LTM harvest for 2002-2012 in the Mid-Atlantic (NJ-VA) and South Atlantic (NC-FL) regions.

Abundance Indices

Mid-Atlantic

The Northeast Fishery Science Center (NEFSC) Multispecies Bottom Trawl Survey adult index showed a general increasing trend from the early 1990s to 2012, after which the index has been highly variable.

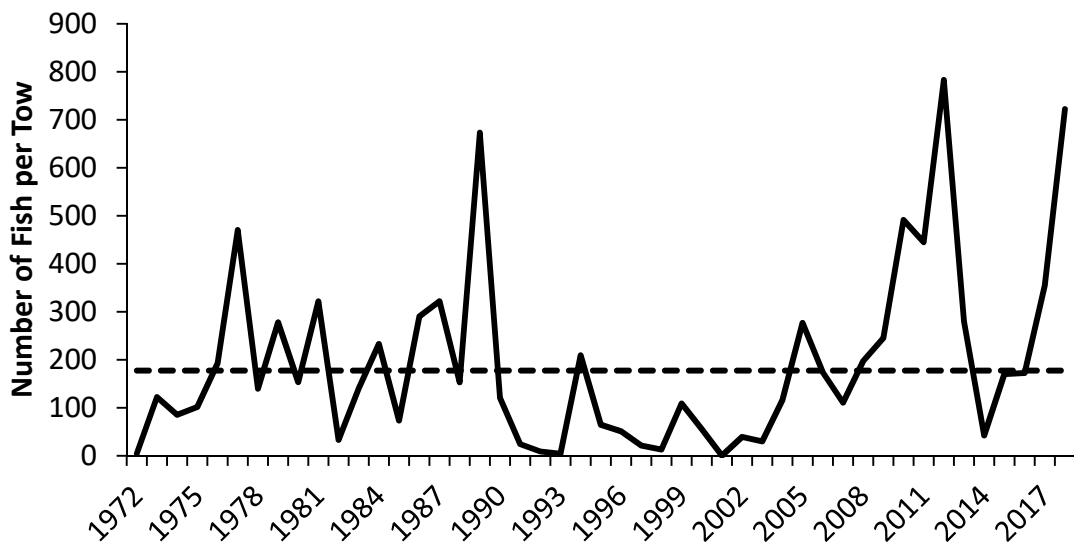


Figure A3. NEFSC adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

The Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAP) adult index shows a steady decline from the peak in 2005 and values below the LTM since 2008.



Figure A4. ChesMMAP adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

South Atlantic

The Southeast Area Monitoring and Assessment Program (SEAMAP) adult index has been variable about the LTM over, approximately, the last 25 years.

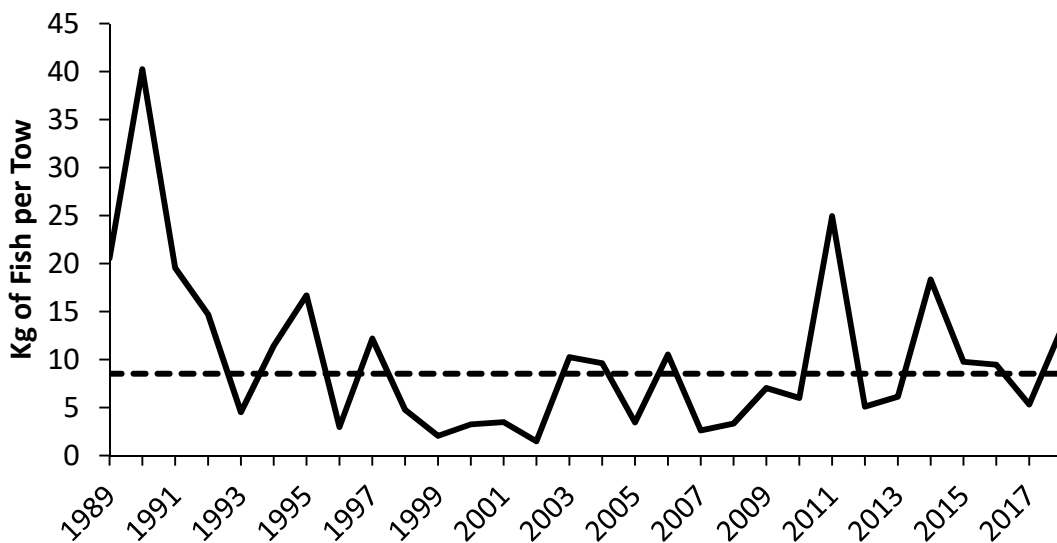


Figure A5. SEAMAP adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

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The North Carolina Division of Marine Fisheries (NCDMF) Pamlico Sound Survey index has been below the LTM for most years since its peak in 2005.

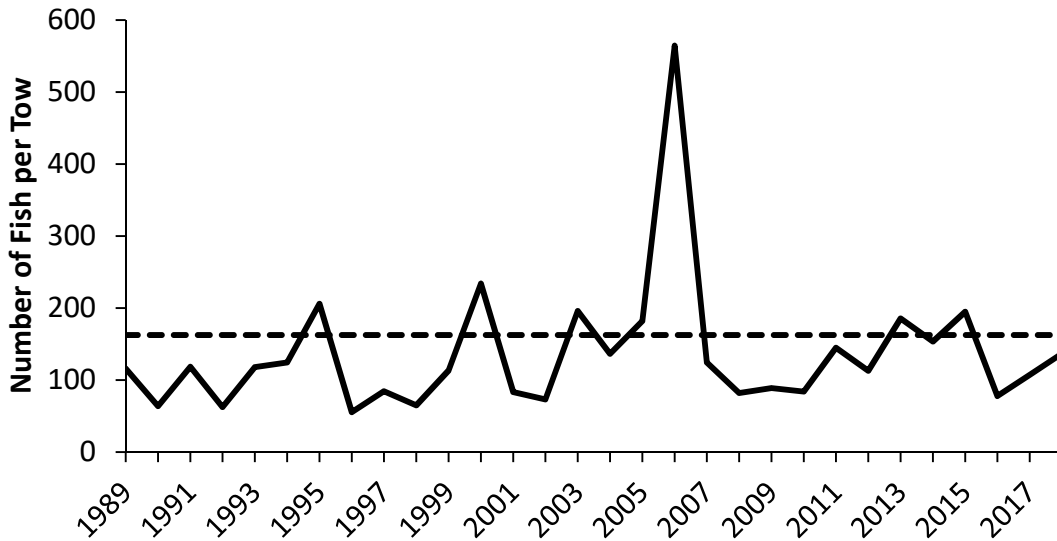
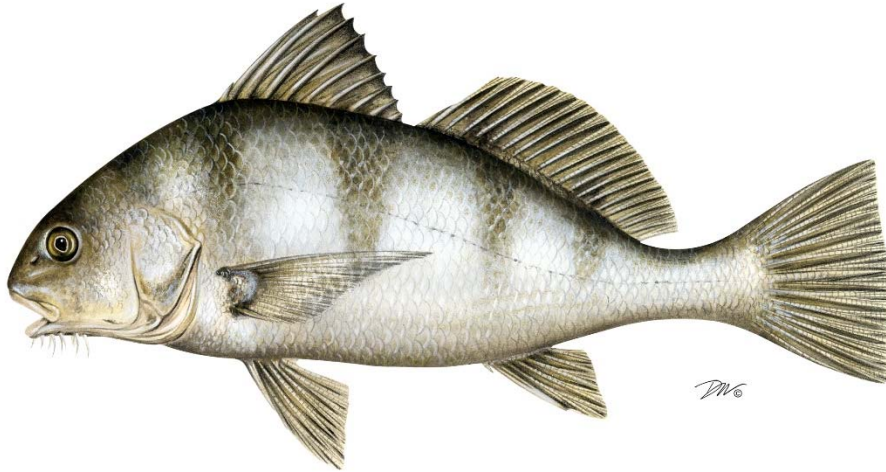


Figure A6. NCDMF adult index (solid line) and the LTM adult index for 2002-2012 (dashed line).

**2019 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR**

**BLACK DRUM
(*Pogonias cromis*)**

2018 FISHING YEAR



The Black Drum Plan Review Team

Michael Schmidtke, Chair, Atlantic States Marine Fisheries Commission

Jordan Zimmerman, Delaware Division of Fish and Wildlife

Chris Stewart, North Carolina Division of Marine Fisheries

Chris McDonough, South Carolina Department of Natural Resources

2019 Black Drum FMP Review

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I. Status of the Fishery Management Plan

Date of FMP Approval: Original FMP – June 2013

Management Areas: The entire Atlantic coast distribution of the resource from New Jersey through the east coast of Florida

Active Boards/Committees: South Atlantic State/Federal Fisheries Management Board; Black Drum Technical Committee, Stock Assessment Subcommittee, Plan Review Team; South Atlantic Species Advisory Panel

The Atlantic States Marine Fisheries Commission (ASMFC) adopted an interstate Fishery Management Plan (FMP) for Black Drum in 2013. Prior to the FMP, management was state-specific, from no regulations in North Carolina to various combinations of size limits, possession limits, commercial trip limits, and/or annual commercial quotas from New Jersey to Florida. The Maryland portion of the Chesapeake Bay was closed to commercial fishing in 1998.

The FMP requires all states with a declared interest in the species to have established a maximum possession limit and minimum size limit of at least 12 inches by January 1, 2014, and to have increased the minimum size limit to at least 14 inches by January 1, 2016. The FMP also includes a management framework to adaptively respond to future concerns or changes in the fishery or population.

There are four plan objectives:

- Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.
- Promote cooperative collection of biological, economic, and sociological data required to effectively monitor and assess the status of the black drum resource and evaluate management efforts.
- Manage the black drum fishery to protect both young individuals and established breeding stock.
- Develop research priorities that will further refine the black drum management program to maximize the biological, social, and economic benefits derived from the black drum population.

The management unit for black drum under the FMP is defined as the range of the species within U.S. waters of the northwest Atlantic Ocean, from the estuaries eastward to the offshore boundaries of the Exclusive Economic Zone (EEZ).

In 2018, Addendum I allowed Maryland to reopen their commercial fishery in the Chesapeake Bay, starting in the 2019 fishing year (ASMFC 2018). Prior to this addendum, a commercial moratorium was in place for these waters due to the FMP's requirement that states maintain measures in place at the time of the FMP's approval.

II. Status of the Stocks

In the 2015 Black Drum Benchmark Stock Assessment, the Stock Assessment Subcommittee (SAS) selected the Depletion-Based Stock Reduction Analysis (DB-SRA; Dick and McCall 2011) as the preferred method for estimating catch reference points. The SAS considered the Depletion-Corrected Average Catch (DCAC; McCall 2009) analysis, but ultimately rejected this method. DCAC did not incorporate removals into a population dynamics process, and uncertainty existed over how changes in the exploitation rate time series may impact the sustainable yield relative to the current stock condition.

Based on the DB-SRA results, black drum life history, indices of abundance, and history of exploitation, the black drum stock is not overfished and not experiencing overfishing (ASMFC 2015). Median biomass exhibited slow and steady decline from 135.2 million pounds in 1900 to 90.78 million pounds in 2012, though the median biomass estimate in 2012 is still well above the necessary level to produce maximum sustainable yield (B_{MSY} ; 47.26 million pounds) (Figure 1). The median maximum sustainable yield (MSY) estimate is 2.12 million pounds and provides an annual catch target that can be used to sustainably manage the fishery. The median overfishing limit (OFL) estimate is 4.12 million pounds and provides a catch threshold that indicates overfishing when exceeded. The OFL is the maximum exploitation rate at the current biomass that does not lead to overfishing.

NOTE: In 2018, the Marine Recreational Information Program transitioned from estimating effort using the Coastal Household Telephone Survey (CHTS) to the mail-based Fishing Effort Survey (FES). The 2015 stock assessment used CHTS data to estimate recreational harvest. However, as black drum is not managed by a quota and to accommodate the transition, recreational harvest estimates based on the FES data or calibration are shown in this report. Due to differing estimation methodologies, these harvest data should not be compared to reference points from the 2015 stock assessment. Harvest estimates based on either effort survey can be compared at: <https://www.st.nmfs.noaa.gov/st1/recreational/queries/>.

III. Status of the Fishery

Total black drum landings from New Jersey through the east coast of Florida are estimated at 5.3 million pounds in 2018, a 20% decrease from total harvest in 2017 (Tables 2 and 3, Figure 2). 2018 harvest is 23% below the previous ten-year (2008-2017) average. The commercial and recreational fisheries harvested 5% and 95% of the 2018 total, respectively.

Commercial landings of black drum in 2018 span from Rhode Island through Florida, although landings from outside the management unit (i.e. north of New Jersey) were less than 1% of the coastwide total. Coastwide commercial landings show no particular temporal trends, ranging from approximately 82,000 to 556,000 pounds annually since 1981 (Figure 2). Black drum commercial landings in 2018 were 239,124 pounds, a 17% decrease from those of 2017. North Carolina led commercial harvest with 46% of the landings, followed by Virginia with 32% (Table 2).

Recreational harvest of black drum peaked by weight in 2008 at 10.7 million pounds (Table 3) and by numbers of fish in 2003 at 2.9 million (Table 4). Since 2000, weight has fluctuated without trend between 3.3 and 10.7 million pounds, and numbers of fish have fluctuated between 890 thousand and 2.9 million fish (Figures 3 and 4).

Average weight (recreational harvest in pounds divided by recreational harvest in numbers) in 2018 was 3.6 pounds per fish, approximately the same as 2017. Years that have shown large increases in coastwide average weight (i.e. increases to recreational harvest in pounds without proportional increase to recreational harvest in numbers) have typically occurred during years when Mid-Atlantic states (Virginia-New Jersey) have caught increased percentages of the coastwide recreational harvest (Tables 3 and 4).

The 2018 recreational harvest (1.4 million fish or 5.1 million pounds) represents a 19% decrease in numbers and a 20% decrease in pounds from 2017. Florida anglers landed the largest share of the coastwide recreational harvest in numbers (65%), followed by South Carolina (13%). Since the beginning of the recreational time series (1981) anglers have released increasing percentages of caught fish, with percentages of recreational fish released exceeding 70% in each of the past 5 years. In 2018, 79% (5.2 million fish) of the recreational catch was released (Figure 3, Table 5). It is worth noting that release rates increased substantially after 2013, when the FMP established minimum sizes in every state and required that undersized drum be released for the first time. Recent high release rates can be attributed to these measures, as well as encouragement of catch and release practices.

IV. Status of Assessment Advice

Current stock status information comes from the 2015 benchmark stock assessment (ASMFC 2015) completed by the ASMFC Black Drum Stock Assessment Subcommittee and Technical Committee, peer reviewed by an independent panel of experts, and approved by the South Atlantic State-Federal Fisheries Management Board for use in management decisions.

The stock assessment could be improved by applying a more complex, data-rich assessment method such as a statistical catch-at-age model. Data limitations that need to be addressed to successfully make this transition are biological sampling (length and age) of recreational and commercial fisheries and a fishery-independent survey to track abundance and age structure of the mature stock. Additionally, information about commercial discards and movement of fish along coast and between water depths would improve the assessment.

V. Status of Research and Monitoring

There are no monitoring or research programs required annually of the states except for the submission of a compliance report. The following fishery-dependent (other than catch and effort data) and fishery-independent monitoring programs were reported in the 2018 reports.

2019 Black Drum FMP Review

Fishery Dependent Monitoring

- Delaware DFW – Black Drum were sampled from the commercial fishery (2018: 86 fish) and recreational fishery (2018: 42 fish) for total length, weight, sex, and age.
- Maryland DNR – Conducted commercial pound net survey from late spring through summer. (2018: 3 fish).
- Virginia MRC –
 - Conducted a biological monitoring program to sample commercial and recreational harvest (2018 – commercial: 164 samples for length, weight, sex, and age; recreational: 110 samples for length and age, 27 for weight, and 102 for sex).
 - Conducted Virginia Game Fish Tagging Program with volunteer anglers (2018: 113 fish tagged and 2 recaptured).
- North Carolina DMF – Conducted commercial sampling of black drum bycatch (2018: n=658; mean total length=17 in). Recreational sampling through MRIP (2018: n=128; mean total length=16 in).
- South Carolina DNR – Terminated the state finfish survey and took over MRIP intercept sampling in 2013 (information reported through MRIP). Recreational reporting also through South Carolina Charterboat Logbook Program. Charter boat catch and effort (both number of trips and number of anglers) have increased throughout the time series but declined from 2017 to 2018.
- Georgia CRD – Collected age, length, and sex data through the Marine Sportfish Carcass Recovery Project (2018: 91 black drum, mean length 403 mm centerline length).
- Florida FWC – Conducted Florida trip ticket program monitoring commercial catch and effort. Commercial pounds per trip in 2018 decreased from 2017. Recreational catch and effort are monitored through MRIP. Recreational catch per trip in 2018 increased from 2017, and was the highest recorded since 2004.
- NMFS – Collected recreational catch, harvest, release, and effort data, as well as length measurements via MRIP.

Fishery Independent Monitoring

- New Jersey DEP –
 - Ocean Trawl Survey: 31-year time series average is 0.16 (2018: 0.10).
 - Delaware Bay Trawl: 28-year time series average is 0.16 (2018: 0.08)
 - Delaware River Seine: 39-year time series average is 0.07 (2018: 0.003).
- Delaware DFW – Conducted two finfish trawl surveys (16ft for juveniles; 30ft for adults). Older than young-of-year (YOY) black drum are rarely captured, and no long term trend is evident. YOY abundance (0.26 black drum/tow) increased in 2018 and was above the time series median.
- Maryland DNR – Conducted the Coastal Bays Fisheries Seine Survey in Maryland’s coastal bay and generally catches juvenile fish. Annual mean catch per haul exhibits no trend and high variation. Annual mean catch per haul in 2018 was just above the time series mean and increased for the third year following a low 2015 value.

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- North Carolina DMF – Conducted a gill net survey in Pamlico Sound to characterize size and age distribution, and to produce an abundance index (2018: CPUE=0.42, below the time series average of 0.98).
- South Carolina DNR – Conducted an estuarine trammel net survey for subadult abundance (2018: CPUE=0.204, increase from 2017).
- Georgia CRD –
 - Conducted an estuarine trammel net survey for subadult biological data and abundance index (2017 – Altamaha River: n=22, CPUE=0.17; Wassaw estuary: n=10, CPUE=0.08).
 - Conducted an estuarine gill net survey for YOY biological data and abundance index (2018 – Altamaha River: n=3, CPUE=0.02; Wassaw estuary: n=0, CPUE=0).
 - Conducted Ecological Monitoring Trawl Survey (2018: n=1)
- Florida FWC-FWRI – Conducted two seine surveys monthly in northeast and central southeast Florida to develop annual estimates of adult and juvenile relative abundance. Standardized catch rates indicate a variable but non-directional trend for juveniles and an increasing trend for adults.

VI. Status of Management Measures and Issues

Fishery Management Plan

The Black Drum FMP requires all states with a declared interest in the species to have established a maximum possession limit and minimum size limit of at least 12 inches by January 1, 2014, and to have increased the minimum size limit to no less than 14 inches by January 1, 2016.

De Minimis

The black drum FMP allows states to request *de minimis* status if, for the preceding three years for which data are available, their average combined commercial and recreational landings (by weight) constitute less than 1% of the average coastwide commercial and recreational landings for the same three-year period. A state that qualifies for *de minimis* will qualify for exemption in both their commercial and recreational fisheries.

De Minimis Requests

No state requested *de minimis* status through the annual reporting process.

Recent Changes to State Management

Maryland – Maryland made a regulation change on February 25, 2019 to reopen a commercial fishery within Maryland’s portion of Chesapeake Bay, as allowed by Addendum I to the Interstate Fisheries Management Plan for Black Drum. The new regulations allow commercial fishermen in Chesapeake Bay a ten fish per vessel per day limit, with a minimum size limit of 28 inches total length. All other regulations remain unchanged.

Georgia - In 2017, the Georgia General Assembly approved the addition of species endorsements to commercial fishing licenses to replace Letters of Authorization, which was followed by the Board

of Natural Resources implementation in December 2017. Species endorsements, including one for finfish, were issued starting with the 2018-2019 fishing season.

A new seafood dealer license was also implemented April 1, 2018. Seafood dealers are defined as “any person or entity, other than the end-consumer, who purchases seafood products from a harvester unless the harvester is a licensed seafood dealer.” Commercial harvesters fishing in Georgia waters and/or unloading seafood products must possess a commercial fishing license and the appropriate species endorsements. A harvester is required to have a dealer’s license if they are selling their catch to end consumers.

VII. Implementation of FMP Compliance Requirements for 2018

The PRT finds that all states have implemented the requirements of the Fishery Management Plan.

VIII. Recommendations of the Plan Review Team

Management and Regulatory Recommendations (H) =High, (M) =Medium, (L) =Low

- Supporting the Black Drum Technical Committee’s recommendation, postpone scheduling the next stock assessment for three years. When the next assessment is conducted, it should be a benchmark assessment that attempts to modify the DBSRA model and incorporates new information. (H)
- Develop management mechanism (e.g., traffic light analysis) to evaluate annual fishery independent and dependent indices to assess stock status and recommend management action if needed. (H)

Prioritized Research and Monitoring Recommendations (H) =High, (M) =Medium, (L) =Low

Stock Assessment and Population Dynamics

- Update the 2015 stock assessment or conduct a new benchmark stock assessment that includes the recalibrated MRIP recreational harvest estimates based on the new, mail-based FES. (H)
- Age otoliths that have been collected and archived. (H)
- Collect information to characterize the size composition of fish discarded in recreational fisheries. (H)
- Collect information on the magnitude and sizes of commercial discards. Obtain better estimates of black drum bycatch in other fisheries, especially juvenile fish in south Atlantic states. (H)
- Increase biological sampling in commercial fisheries to better characterize the size and age composition of commercial fisheries by state and gear. (H)
- Increase biological sampling in recreational fisheries to better characterize the size and age composition by state and wave. (H)
- Obtain estimates of selectivity-at-age for commercial fisheries by gear, recreational harvest, and recreational discards. (H)

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- Continue all current fishery-independent surveys and collect biological samples for black drum on all surveys. (H)
- Develop fishery-independent adult surveys. Consider long line and purse seine surveys. (H)
- Collect age samples, especially in states where maximum size regulations preclude the collection of adequate adult ages. (H)
- Conduct a high reward tagging program to obtain improved return rate estimates. Continue and expand current tagging programs to obtain mortality and growth information and movement at size data. (H)
- Conduct tagging studies using implanted radio tracking tags that are compatible with coastal tracking arrays along the Atlantic coast in order to track movement and migration of adults. (H)
- Conduct studies to estimate catch and release mortality rates in recreational fisheries. (H)
- Conduct reproductive studies, including: age and size-specific fecundity, spawning frequency, spawning behaviors by region, and movement and site fidelity of spawning adults. (H)
- Improve sampling of night time fisheries. (M)
- Collect genetic material (i.e., create “genetic tags”) over a long time span to obtain information on movement and population structure, and potentially estimate population size. (M)
- Obtain better estimates of harvest from the black drum recreational fishery, especially in states with short seasons. (M)

IX. References

ASMFC. 2013. Interstate Fishery Management Plan for Black Drum. Arlington, VA.

ASMFC. 2015. Black Drum Stock Assessment for Peer Review. Atlantic States Marine Fisheries Commission, Stock Assessment Report. 352 p.

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Dick, E.J. and MacCall, A.D. 2011. Depletion-Based Stock Reduction Analysis: A catch-based method for determining sustainable yields for data-poor fish stocks. *Fisheries Research*, 110: 331-341

MacCall, A.D. 2009. Depletion-Corrected Average Catch: a simple formula for estimating sustainable yields in data-poor situations. *ICES Journal of Marine Science*, 66: 2267-2271.

X. Figures

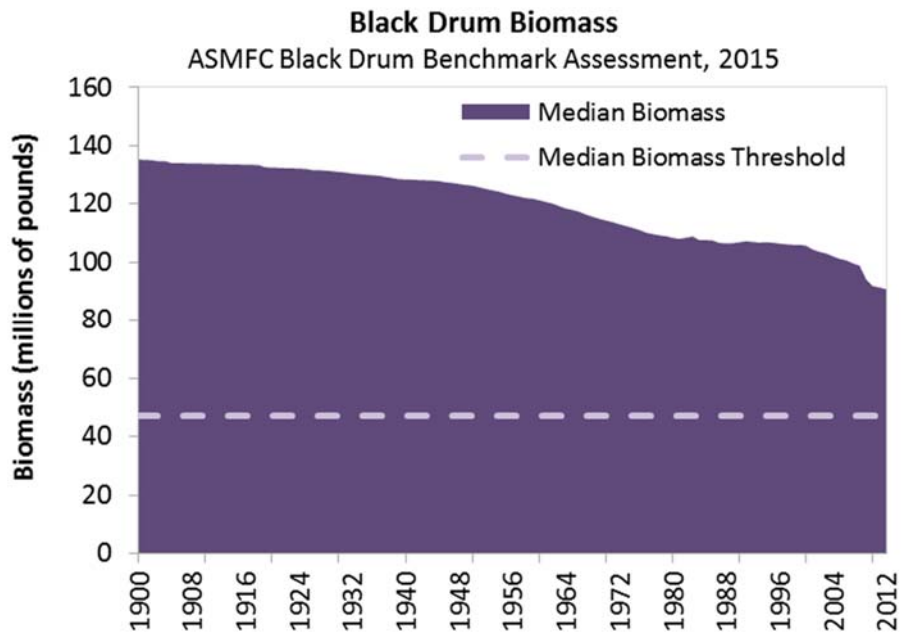


Figure 1. DB-SRA estimates of Median biomass and threshold 1900-2012 (Source: ASMFC 2015).

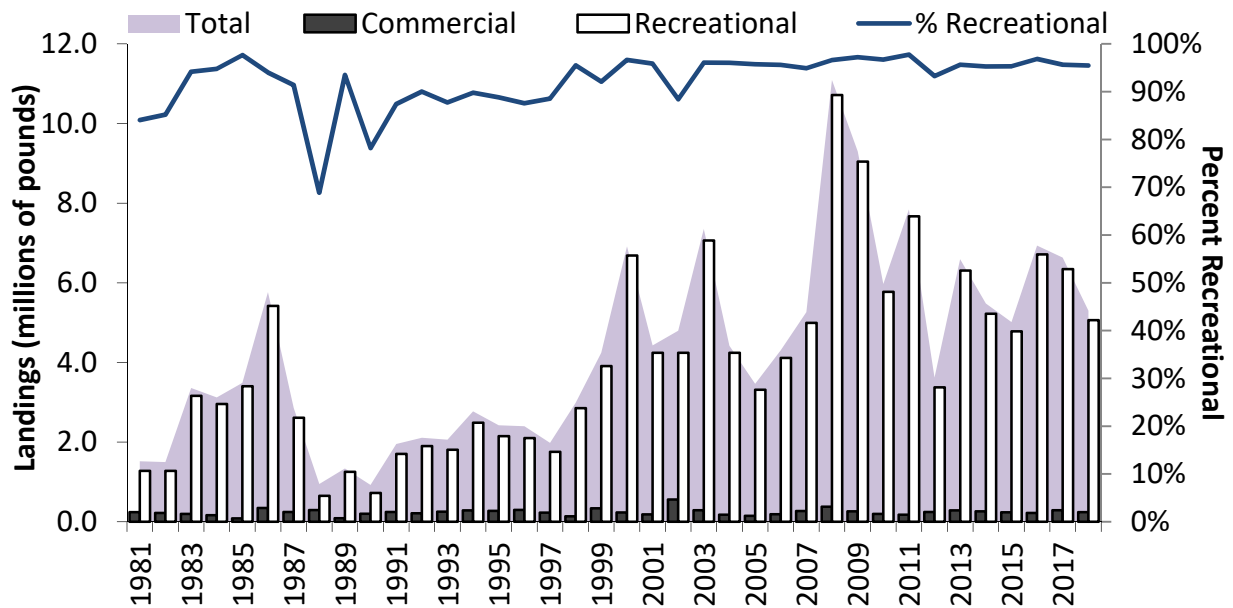


Figure 2. Commercial and recreational landings (pounds) of black drum. See Tables 2 and 3 for values and data sources.

2019 Black Drum FMP Review

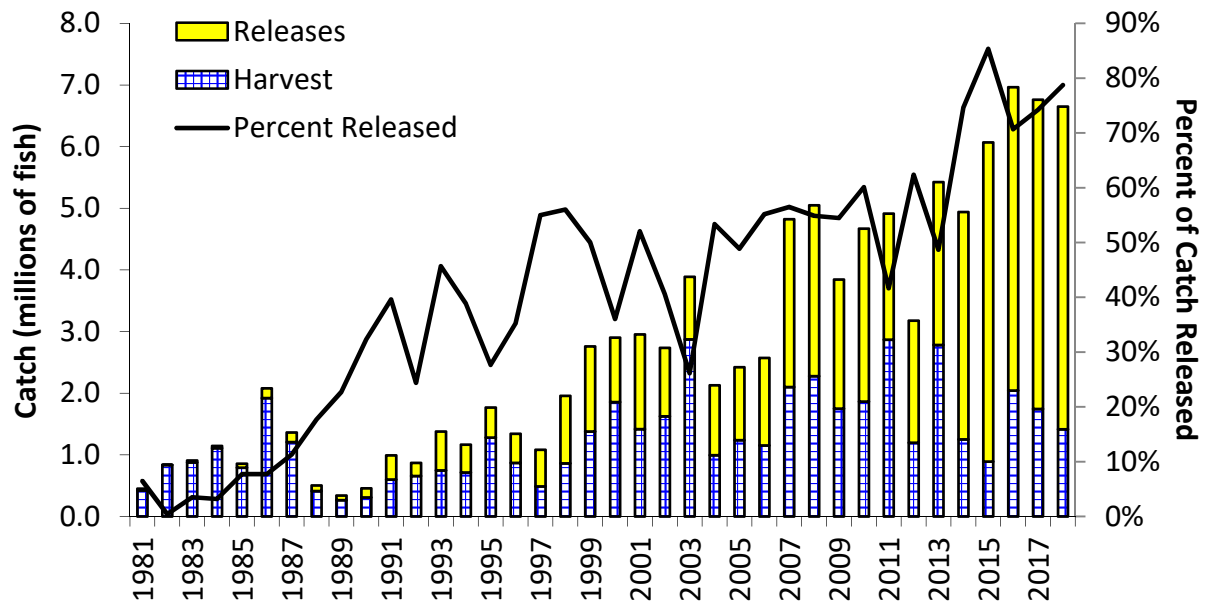


Figure 3. Recreational catch (harvest and alive releases) of black drum (numbers) and the proportion of catch that is released. See Tables 4 and 5 for values and data sources.

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XI. Tables

Table 1. Black drum regulations for 2018. The states of New Jersey through Florida are required to meet the requirements in the FMP. All size limits are total length.

State	Recreational		Commercial			Notes
	Size limit	Bag limit	Size limit	Trip Limit	Annual Quota	
ME - NY	-	-	-	-	-	
NJ	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
DE	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
MD	16" min	1/person/day 6/vessel (Bay)	16" min		1,500 lbs Atlantic Coast	Chesapeake Bay closed to commercial harvest. Reopened on Feb. 25, 2019, details in Sec. VI.
VA	16" min	1/person/day	16" min	1/person/day*	120,000 lbs	*without Black Drum Harvesting and Selling Permit
NC	14" min - 25" max; 1 fish > 25" may be retained	10/person/day	14" min - 25" max	500 lbs		
SC	14" min - 27" max	5/person/day	14" min - 27" max	5/person/day		Commercial fishery primarily bycatch
GA	14" min	15/person/day	14" min	15/person/day		
FL	14" min - 24" max; 1 fish >24" may be retained	5/person/day	14" min - 24" max	500 lbs/day		

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Table 2. Commercial landings (pounds) of black drum by state, 2009-2018. (Totals include coastwide landings outside of the management area, NJ-FL. Sources: 2019 state compliance reports for 2018 fishing year; for years prior to 2018, personal communication with ACCSP, Arlington, VA)

Year	NJ	DE	MD	PRFC	VA
2009	6,408	30,563	158	40	57,249
2010	3,079	49,744	C		58,150
2011	3,130	C	C		44,620
2012	19,017	10,943	571	3	104,234
2013	16,251	24,640	2,145		87,235
2014	9,270	C	C		88,402
2015	6,478	39,282	C		87,011
2016	2,210	49,109	C		49,832
2017	21,248	699	423		42,695
2018	C	32,375	734		76,337
	NC	SC	GA	FL	Total
2009	148,994		C	15,710	259,237*
2010	69,194		C	15,684	196,323
2011	56,083		C	22,295	175,848
2012	94,352	C		14,302	243,527*
2013	127,170	C	C	28,460	286,413
2014	51,217			91,587	259,650
2015	51,073			50,477	234,727*
2016	90,715	C		26,978	219,350
2017	182,882	C		41,280	289,431
2018	109,757			19,465	239,124*

C: Confidential landings

*: Total excludes some state landings due to confidentiality

Table 3. Recreational harvest (pounds) of black drum by state and coastwide average weight, 2009-2018. (Sources: 2019 state compliance reports for 2018 fishing year; for years prior to 2018, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2009	2,950,869	39,864		1,704,514	421,788
2010	350,673	172,861	105,096	49,732	812,699
2011	373,639	38,043	0	1,243,692	823,423
2012	37,076	2,844	0	36,195	879,401
2013	94,636	15,668	0	112,139	2,709,269
2014	11,476	22,070	18,684	97,043	230,834
2015	443,907	16,992	16,575	25,216	780,876
2016	159,589	2,180	8,924	77,672	1,322,547
2017	406,068	22,998	3,001	81,275	856,081
2018	814,965	179,071	53,599	29,120	428,273
	SC	GA	FL	Total	Avg Wt
2009	103,384	83,749	3,739,378	9,043,546	5.17
2010	203,796	364,352	3,712,810	5,772,019	3.10
2011	89,482	56,361	5,043,573	7,668,213	2.67
2012	321,734	211,618	1,885,164	3,374,032	2.82
2013	413,455	149,094	2,813,673	6,307,934	2.27
2014	238,616	249,118	4,353,686	5,221,527	4.17
2015	82,484	88,698	3,325,410	4,780,158	5.37
2016	623,449	226,558	4,292,398	6,713,317	3.29
2017	681,976	187,698	4,105,686	6,344,783	3.64
2018	652,179	392,380	2,511,235	5,060,822	3.58

Table 4. Recreational harvest (numbers) of black drum by state, 2009-2018. (Sources: 2019 state compliance reports for 2018 fishing year; for years prior to 2018, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2009	69,140	1,112		41,986	449,901
2010	13,421	3,609	6,556	4,846	650,010
2011	22,882	1,196	0	126,964	1,259,216
2012	1,368	110	0	7,555	556,482
2013	11,083	1,851	0	6,170	1,511,995
2014	482	1,052	1,690	10,676	109,307
2015	10,793	462	1,091	1,600	276,126
2016	6,008	138	250	5,807	459,078
2017	18,435	1,214	828	16,700	355,544
2018	40,153	9,211	1,262	3,721	134,624
	SC	GA	FL		Total
2009	45,752	41,853	1,100,618		1,750,362
2010	85,152	138,328	961,627		1,863,549
2011	29,909	25,803	1,401,636		2,867,606
2012	91,318	42,826	496,537		1,196,196
2013	143,662	64,533	1,044,490		2,783,784
2014	96,967	47,807	983,582		1,251,563
2015	37,186	48,229	514,606		890,093
2016	256,158	96,351	1,217,913		2,041,703
2017	241,832	64,240	1,044,752		1,743,545
2018	185,648	114,263	925,794		1,414,676

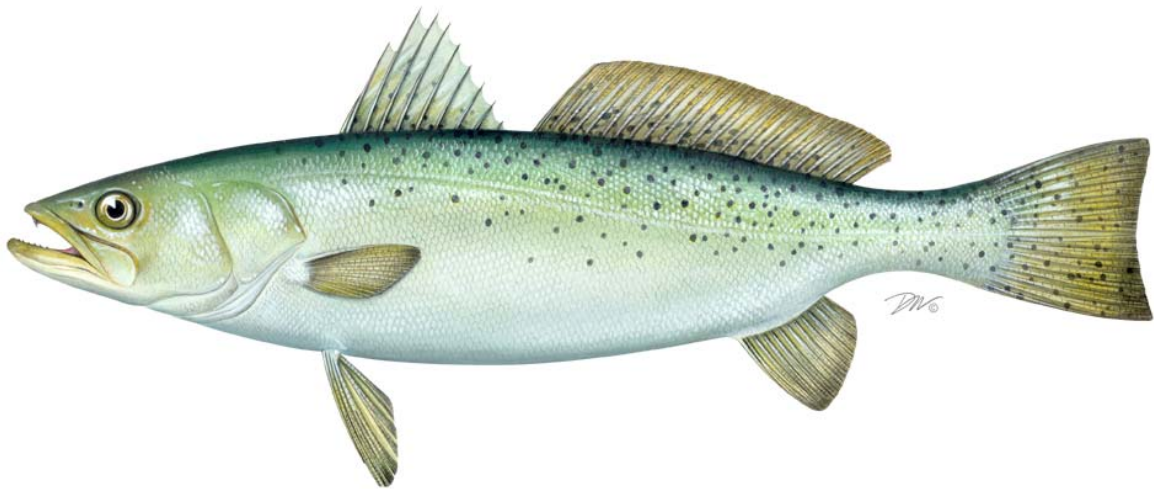
Table 5. Recreational alive releases (numbers) of black drum by state, 2009-2018. (Sources: 2019 state compliance reports for 2018 fishing year; for years prior to 2018, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2009	316,471	2,310		41,215	411,358
2010	47,508	4,251	9,613	64,320	427,577
2011	4,799	4	9,595	319,622	711,755
2012	17,092	1,653	89,193	22,236	397,155
2013	0	57,091	15,868	52,417	497,334
2014	37,364	11,243	0	269,648	1,964,749
2015	545,613	17,109	25,115	164,322	1,791,758
2016	9,399	361	114	46,494	2,530,596
2017	111,739	3,689	2,809	137,987	2,336,352
2018	51,148	15,249	27,849	169,204	1,450,855
	SC	GA	FL		Total
2009	81,423	60,290	1,180,223		2,093,290
2010	66,635	72,870	2,113,308		2,806,082
2011	66,748	20,355	913,567		2,046,445
2012	153,799	52,722	1,246,585		1,980,435
2013	330,528	35,034	1,654,129		2,642,401
2014	335,600	21,581	1,047,833		3,688,018
2015	1,483,956	55,773	1,096,185		5,179,831
2016	1,268,667	54,266	1,012,670		4,922,567
2017	692,616	85,365	1,648,030		5,018,587
2018	1,087,536	167,974	2,265,550		5,235,365

2019 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

SPOTTED SEATROUT
(Cynoscion nebulosus)

2018 FISHING YEAR



The Spotted Seatrout Plan Review Team

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2019 Spotted Seatrout FMP Review

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2019 Spotted Seatrout FMP Review

I. Status of the Fishery Management Plan

<u>Date of FMP Approval:</u>	Original FMP – October 1984
<u>Amendments:</u>	Amendment 1 – November 1991 Omnibus Amendment to Spanish Mackerel, Spot, and Spotted Seatrout -- August 2011
<u>Management Area:</u>	The Atlantic coast distribution of the resource from Maryland through the east coast of Florida
<u>Active Boards/Committees:</u>	South Atlantic State/Federal Fisheries Management Board; Spotted Seatrout Plan Review Team; South Atlantic Species Advisory Panel

The Atlantic States Marine Fisheries Commission (ASMFC) adopted the Fishery Management Plan (FMP) for spotted seatrout in 1984. The ISFMP Policy Board approved Amendment 1 to the FMP in November 1991. In August 2011, the South Atlantic State/Federal Management Board approved the Omnibus Amendment to the Spanish Mackerel, Spot, and Spotted Seatrout FMPs, bringing the Spotted Seatrout FMP under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (Act, 1993) and the ASMFC Interstate Fishery Management Plan Charter (1995). The management unit is comprised of the states of Maryland through Florida.

The goal of the management plan is "to perpetuate the spotted seatrout resource in fishable abundance throughout its range and generate the greatest possible economic and social benefits from its harvest and utilization over time." Plan objectives include:

1. Attain optimum yield over time.
2. Maintain a spawning potential ratio of at least 20% to minimize the possibility of recruitment failure.
3. Promote conservation of the stocks to reduce inter-annual variation in availability and to increase yield per recruit.
4. Promote collection of economic, social, and biological data required to effectively monitor and assess management efforts relative to the overall goal.
5. Promote research that improves understanding of the biology and fisheries of spotted seatrout.
6. Promote harmonious use of the resource among various components of the fishery through coordination of management efforts among the various political entities having jurisdiction over the spotted seatrout resource.
7. Promote determination and adoption of standards of environmental quality and provide habitat protection necessary for the maximum natural protection of spotted seatrout.

2019 Spotted Seatrout FMP Review

The Omnibus Amendment added the following objectives to support compliance under the Act:

1. Manage the spotted seatrout fishery by restricting catch to mature individuals.
2. Manage the spotted seatrout stock to maintain sufficiently high spawning stock biomass.
3. Develop research priorities that will further refine the spotted seatrout management program to maximize the biological, social, and economic benefits derived from the population.

Management measures include a minimum size limit of 12 inches in total length (TL), with comparable mesh size regulations in directed fisheries, and data collection for stock assessments and monitoring of the fishery. All states with a declared interest in spotted seatrout (NJ-FL) have implemented, at a minimum, the recommended minimum size limit. In addition, each state has either initiated spotted seatrout data collection programs or modified other programs to collect improved catch and effort data. Table 1 provides the states' recreational and commercial regulations for spotted seatrout through 2018.

II. Status of the Stock

A coastwide stock assessment of spotted seatrout has not been conducted, given the largely non-migratory nature of the species and the lack of data on migration where it does occur. Instead, state-specific age-structured analyses of local stocks have been performed by several states. These stock assessments provide estimates of static spawning potential ratio (SPR), a measure of the effect of fishing pressure on the relative spawning power of the female stock. The FMP recommends a goal of 20% SPR. South Carolina and Georgia have adopted this goal while North Carolina and Florida have established a 30% and 35% SPR goal, respectively.

Spotted seatrout stock assessments have been conducted in individual states. Assessments in North Carolina, which included data from 1981-1997, and Georgia, which included data from 1986-1995, both indicated that female SPR was below the 20% goal in the terminal year (Zhao and Burns 2001, Zhao *et al.* 2001). Another assessment was performed in Georgia in 2002; however, it remains unpublished due to questionable results attributed to data deficiencies and changing methodologies.

North Carolina completed a peer reviewed stock assessment, which included data from 1991-2008 and included all spotted seatrout caught in North Carolina and Virginia (Jensen 2009). The assessment indicated that SPR has been below 20% in recent years. Jensen (2009) recommended management measures be implemented to account for recent increases of recreational fishing and discard mortality and to maintain a sufficiently large spotted seatrout population to buffer against future cold stun events. Based on this assessment, North Carolina approved a state FMP for spotted seatrout in April 2012. A new stock assessment for North Carolina is currently in progress.

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A peer-reviewed stock assessment of spotted seatrout in Virginia and North Carolina waters was completed in 2014, incorporating data from 1991-2013 (NCDMF 2014). Results suggest that the age structure of this stock expanded during the last decade; however, there was a sharp decline in recruitment after 2010. Similarly, spawning stock biomass (SSB) declined after a peak in 2007. These declines may be attributed to cold stun events. In 2012, SSB exceeded the currently defined threshold, suggesting the stock is not overfished. Additionally, fishing mortality is below the threshold, suggesting the stock is not experiencing overfishing.

The South Carolina Department of Natural Resources packaged several state-specific assessments into a report in 2001, though these were not peer reviewed. The initial assessment covering 1986-1992 indicated that female SPR was just above the 20% goal in the terminal year (Zhao and Wenner 2001), leading to a minimum size limit increase and a creel limit reduction. A more recent assessment was conducted for the period 1981-2004 (de Silva, Draft 2005). Two modeling approaches were used, and both models indicated that the current SSB is below the requirement to maintain 20% SPR.

Florida conducted separate stock assessments for the northern and southern populations on their Atlantic coast. Average transitional SPR estimates during 2007-2009 were 0.67 in the northern region and 0.45 in the southern region (Murphy et al. 2011), leading to some relaxation in Florida's management of the resource (Table 1). A new statewide assessment was completed in 2018 (<http://www.myfwc.com/media/4500170/sst-assessment-2016.pdf>) (Addis et al. 2018). This assessment includes stock synthesis models constructed for each of Florida's four management regions (NW, SW, NE, and SE). The results indicate that the spotted seatrout stock in northeast Florida is above the biomass threshold but below the biomass target and overfishing is not likely occurring. They also indicate that the stock in southeast Florida is above the biomass threshold but below the biomass target and overfishing is not likely occurring.

III. Status of the Fishery

Spotted seatrout is typically caught both commercially and recreationally from Maryland through the east coast of Florida. In South Carolina, spotted seatrout has been declared a gamefish and can only be taken by recreational means. Landings from states north of Maryland are minimal and/or inconsistent from year to year. In 2018, landings ranged as far north as Rhode Island. State catch estimates in this section include those in the management area only (MD-FL), but coastwide totals include the entire Atlantic coast. Total recreational landings have surpassed total commercial landings every year since recreational landings were first recorded in 1981 (Figure 1). Spotted seatrout, particularly in Virginia-South Carolina, are susceptible to cold stuns that result in sporadic, large amounts of winter mortality, which can then lead to sudden declines in harvest. One of these cold stuns occurred in 2018, prompting in-season changes to management in affected states.

Commercial Fishery

Commercial harvest statistics were obtained from the Atlantic Coastal Cooperative Statistics Program (ACCSP) for years prior to 2018 and from state compliance reports for 2018. Atlantic

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coast commercial landings of spotted seatrout (1950-2018) have ranged from 156,000 pounds to 2.3 million pounds (Figure 1). Historically, commercial landings primarily came from North Carolina and Florida, with Virginia, South Carolina, and Georgia accounting for a small portion of the total. From 1950 to 1976, annual commercial landings of spotted seatrout averaged 1.3 million pounds, followed by a decline due to increased regulation and possible declines in abundance. Significant changes to regulations include the 1987 designation of spotted seatrout as a gamefish in South Carolina, and the 1995 prohibition on the use of entangling nets in Florida's coastal waters. From 2008 to 2017, commercial landings averaged approximately 333 thousand pounds. In 2018, commercial landings totaled 168,500 pounds, a 55% decrease from 2017 (Table 2). North Carolina, Florida, and Virginia accounted for 77%, 13%, and 10% of the total commercial landings, respectively.

Recreational Fishery

Recreational harvest statistics were obtained from the Marine Recreational Information Program (MRIP) for years prior to 2018 and from state compliance reports for 2018. These landings have been updated to reflect the calibration and transition to the mail-based, Fishing Effort Survey. Over the last 33 years, recreational catch of spotted seatrout (kept and released) has shown an upward trend, increasing from 4.3 million fish in 1981 to 31.0 million fish in 2018. In 2018, recreational catch totaled 31.0 million fish, a 36% increase from 2017 (Figure 2). Recreational harvest has remained relatively stable throughout the time series with an average of 3.5 million fish. Recreational harvest in 2018 was 4.5 million pounds (a 35% decrease from 2017) or 2.8 million fish (a 31% decrease from 2017) (Tables 3 and 4), with Georgia (39%), Florida (33%), and North Carolina (16%) responsible for the largest shares in numbers of fish. Due in part to recreational size and creel limits and closed seasons, as well as the encouragement of catch and release practices, the percentage of caught fish being released has increased throughout the time series, with the previous 10-year average (2008-2017) at 82%. In 2018, the release percentage increased from the 2017 value (82%) to 91%, resulting in 28.1 million released fish (Figure 2, Table 5). Rod and reel is the primary recreational gear, but some spotted seatrout are taken by recreational nets and by gigging, where these methods are permitted. Most recreational fishing is conducted from private boats and the majority of the catch is taken from nearshore waters.

IV. Status of Assessment Advice

A coastwide stock assessment of spotted seatrout has not been conducted and the Plan Review Team (PRT) does not recommend that one be completed due to the life history of the fish and the availability of data. Several states have performed age-structured analyses on local stocks, and recent stock assessments provide divergent trends on the status of the species. The 2005 stock assessment in South Carolina indicated an increasing population trend but a status level that is still below target spawning stock biomass levels (de Silva 2005). The 2014 North Carolina and Virginia stock assessment showed declines in recruitment since 2010. The 2018 Florida stock assessment indicated that the spotted seatrout stock in northeast Florida is above the biomass threshold but below the biomass target and overfishing is not likely occurring (Addis et al. 2018). It also indicated that the stock in southeast Florida is above the biomass threshold but

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below the biomass target and overfishing is not likely occurring. The PRT supports the continuation of state-specific assessments, yet recognizes the difficulty most states face to attain sufficient data of assessment quality and personnel who can perform the necessary modeling exercises.

The lack of biological and fisheries data for effective assessment and management of the resource was recognized in the 1984 FMP and continues to be a hindrance. Some states are increasing their collection of biological and fisheries data, which will provide insight on stock status over time.

V. Status of Research and Monitoring

In addition to commercial and recreational fishery-dependent data collected and/or compiled through the NMFS Fisheries Statistics Division, some states have implemented fishery-independent or additional fishery-dependent monitoring programs.

Maryland

MD DNR samples commercial pound nets weekly in the Potomac River and Chesapeake Bay from May through September (2018 n=0).

A few juvenile spotted seatrout are encountered in the coastal bays seine survey and the Chesapeake Bay blue crab trawl survey, indicating seatrout utilize these areas as nursery habitat (2018 seine n=39, trawl n=52).

Virginia

The VMRC Biological Sampling Program collects commercial and recreational fishery-dependent biological data. In 2018, the VMRC collected 904 commercial lengths, determined the sex of 247 individuals, and aged 206 individuals. In 2018, the VMRC collected lengths of 128 and aged 103 recreationally caught seatrout.

North Carolina

Commercial fish houses are sampled monthly for fishery-dependent length, weight, and age data (2018 n=1,180). Recreational catch is also sampled for length (2018 n=274).

A fishery-independent Estuarine Trawl Survey is conducted to measure annual juvenile recruitment for many species. The Catch per Unit Effort (CPUE) index for the current 10-year time series has not shown significant trends in CPUE over that time span, although CPUE has shown a declining trend since the most recent peak in 2012. The CPUE of age-0 spotted seatrout for 2018 was 2.98 fish per tow, above the time series average of 2.19.

A fishery-independent gill net survey is conducted to measure age composition and develop indices of age 1+ abundance for many species. Spotted seatrout CPUE from Pamlico Sound has remained relatively steady, with a time series high in 2017 and a slight decrease in 2018. River stations observed declines in spotted seatrout in 2018, likely due to mortality from the January 2018 cold stun event.

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The NCDMF Age Lab ages otoliths collected from several fishery-dependent and independent sources. A total of 516 spotted seatrout were aged by otoliths in 2018 with a maximum age of 5 and a modal age of 1.

South Carolina

The State Finfish Survey collects fishery-dependent catch, effort, and length data from private boat anglers in January and February. In 2018, 8% of 118 interviewed parties targeted spotted seatrout (2018 n=15, mean catch rate of 0.24 fish per targeted fishing hour).

A mandatory trip reporting system for the charter boat fishery has been in place since 1993. In 2018, 415 reported trips targeted seatrout (2018 mean catch rate of 1.27 fish per targeted fishing hour).

The Freezer Drop-Off and the Fishing Tournament programs gather biological information like size, sex, maturity, and age. In 2018, these programs gathered biological information from 13 spotted seatrout.

South Carolina conducts two fishery-independent data collection programs. The Trammel Net Survey covers 7 monthly and 2 quarterly strata. Spotted seatrout is consistently one of the top three most abundance species encountered. The 2018 statewide mean CPUE was lower than 2017 and below the long-term average. The Electrofishing survey covers 5 monthly strata, and catches relatively low numbers of mostly YOY seatrout. Statewide catch rate by the electrofishing survey have been low since 2010.

Georgia

A Marine Sportfish Carcass Recovery Program collects recreational fishery-dependent size and age data (2018 n=2,573 spotted seatrout, average length of 380 mm CL, 253-516 mm range).

The Marine Sportfish Population Health Study trammel net survey samples monthly from September to November since 2003 in the Wassaw and Altamaha Sounds to collect fishery-independent age- and sex-specific estimates of relative abundance (2018: Wassaw CPUE (geometric mean): 0.25; Altamaha CPUE: 0.73). Gillnet sampling also occurs through this study, often encountering seatrout (2018: Wassaw CPUE: 0.26; Altamaha CPUE: 0.98).

Florida

Fishery-dependent sampling includes commercial trip-ticket information and biostatistical sampling of commercial and recreational catch. A voluntary angler logbook program was implemented in 2002 to record lengths of spotted seatrout released alive by anglers. In 2011, this program changed to a 'postcard' program, enlisting anglers encountered during MRIP angler intercept interviews.

A juvenile finfish monitoring program is conducted in the northern Indian River Lagoon (since 1990) and in the estuarine St. Johns, St. Marys, and Nassau Rivers (since 2001). Florida also conducts a 183-m haul seine survey in the Indian River (since 1997) and northeast Florida

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(Jacksonville/St. John's River) (since 2001). Northeast coast YOY abundance in 2018 decreased significantly from 2017. Southeast (Indian River/Tequesta) coast YOY abundance in 2018 increased slightly from 2017. Adult abundance (>200 mm SL) in 2018 increased slightly in the northeast but decreased slightly in the southeast from 2017 values.

VI. Status of Management Measures and Issues

Changes to State Regulations

A minor change to spotted seatrout regulations in Virginia was established in August 2018, defining total length.

In response to the cold stun that occurred in 2018, North Carolina closed the spotted seatrout commercial and recreational fisheries from January 5, 2018 – June 15, 2018 by proclamation. South Carolina also implemented a voluntary “Let em’ spawn, Let em’ live” campaign encouraging the practice of only catch-and-release fishing from January – September 2018.

De Minimis Requests

A state qualifies for *de minimis* status if its previous three-year average combined commercial and recreational catch is less than 1% of the previous three-year average coastwide combined commercial and recreational catch. Those states that qualify for *de minimis* are not required to implement any monitoring requirements, as none are included in the plan.

The states of New Jersey and Delaware request continuation of *de minimis* status. The PRT notes these states meet the requirements of *de minimis*.

VII. Implementation of FMP Compliance Requirements for 2018

The PRT notes that all states have met the compliance requirements.

VIII. Recommendations of Plan Review Team

Management and Regulatory Recommendations

- Consider approval of *de minimis* requests by New Jersey and Delaware.
- Maintain observer coverage in states that have a commercial fishery for spotted seatrout.

Prioritized Research Recommendations

High Priority

- Conduct state-specific stock assessments to determine stock status relative to the plan objective of maintaining a spawning potential of at least 20%.
- Collect data on the size or age of spotted seatrout released alive by anglers and the size or age of commercial discards.
- Research release mortality and how this changes with factors such as season, habitat (e.g., depth, temperature, salinity), fish life history (e.g., size, age) and fishing methods (e.g., gear types).
- Monitor the size, age and reproductive condition of recreationally harvested fish (e.g. freezer drop off and tournament monitoring programs).

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- Research into links between spawning activity, environmental conditions, trophic interactions and recruitment.
- Continue work to examine the stock structure of spotted seatrout on a regional basis (e.g., genetics, use of advanced tagging techniques).
- Research effects of winter severity on the population.
- Utilize telemetry technology to better understand life history characteristics.
- Conduct additional research on the significance of age-specific fecundity changes (i.e., environmental impacts on spawning output of population)
- Develop state-specific juvenile abundance indices.

Medium Priority

- Identify essential habitat requirements.
- Initiate collection of social and economic aspects of the spotted seatrout fishery.

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X. Figures

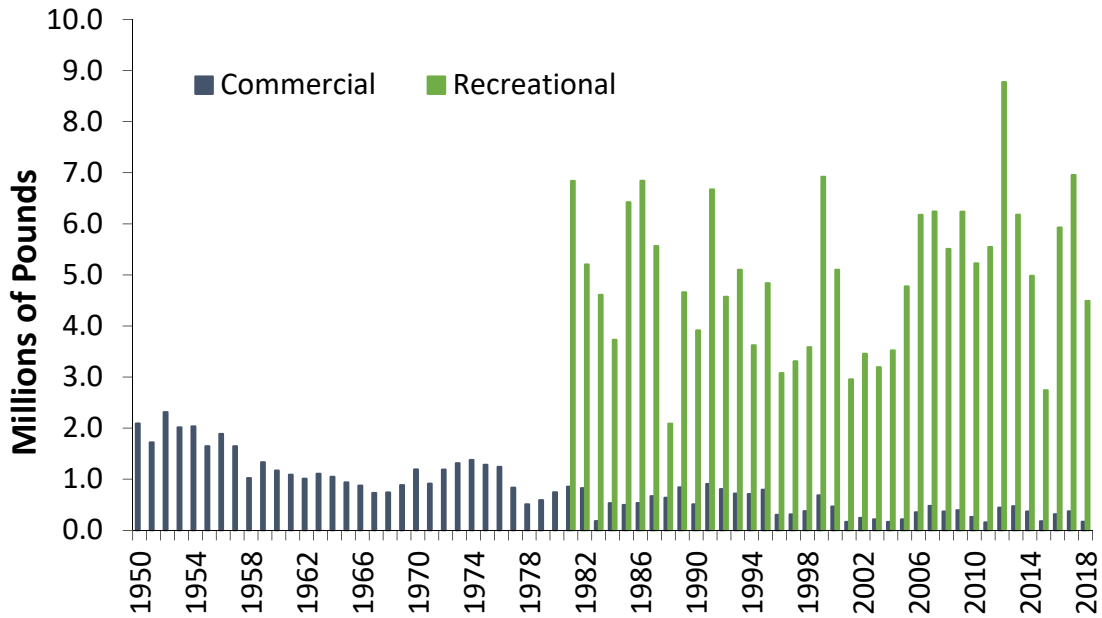


Figure 1. Coastwide commercial landings (1950-2018) and recreational landings (1981-2018), in pounds (See Tables 2 and 4 for values and sources). Recreational data not available prior to 1981.

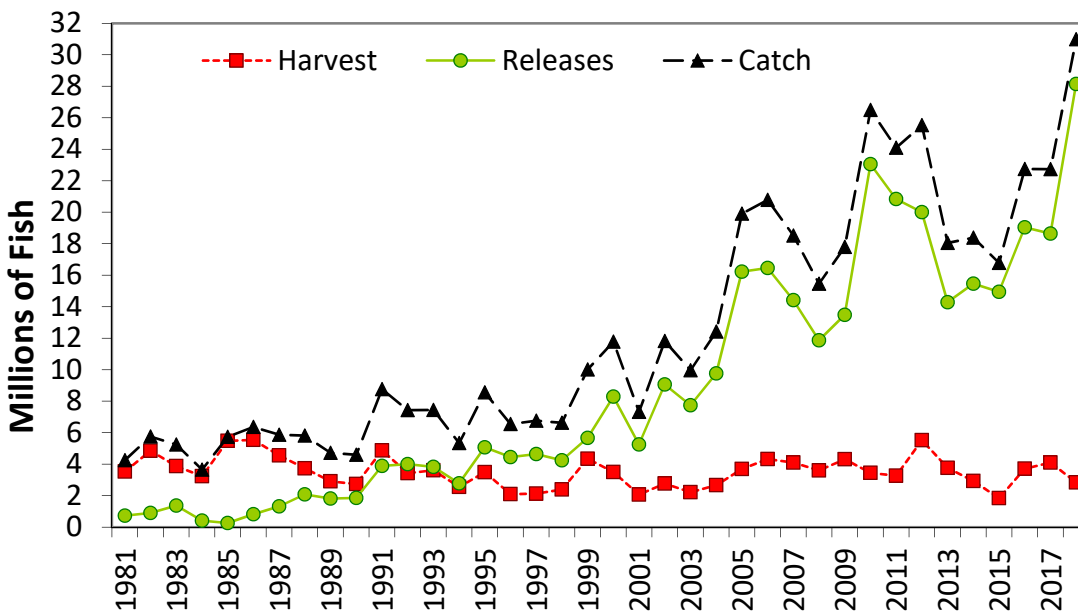


Figure 2. Coastwide recreational catch, harvest, and releases (numbers), 1981-2018 (See Tables 3 and 5 for values and sources).

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XI. Tables

Table 1. Summary of state regulations for spotted seatrout in 2018.

State	Recreational	Commercial
New Jersey	13" TL; 1 fish	Gill net, trawl, and pound net: 13"; 100 lb/vessel/day possession and bycatch limit; seasonal closures; monthly reporting. Trawl and gill net mesh size restrictions. Hook & line fishermen must follow rec limits.
Delaware	12" TL	12" TL
Maryland	14" TL; 4 fish	14" TL. 150 lb limit per day or trip (whichever is longer). Trawl and gill net mesh size restrictions.
PRFC	14" TL; 10 fish	14" TL
Virginia	14-24" TL; 1 fish >24" allowed; 5 fish	14" TL; pound nets/seines allowed 5% by weight less than 14". Hook & line fishermen must follow rec limits. Quota: 51,104 lbs (Sept-Aug). After 80% reached, 100 lb/vessel/day possession and bycatch limit.
North Carolina	14" TL; 4 fish Fishery closed by proclamation from January 5, 2018 – June 15, 2018	14" TL; 75 fish limit. Unlawful to possess or sell Friday 12:00am-Sunday 12:00am. Fishery closed by proclamation from January 5, 2018 – June 15, 2018
South Carolina	14" TL; 10 fish. Gig March-Nov.	Gamefish status since 1987; native caught fish may not be sold.
Georgia	14" TL; 15 fish	14" TL; 15 fish. BRD requirement for trawl; gear mesh regulations.
Florida	15-20" TL slot; 1 fish >20" allowed; northeast 6 fish; northwest 5 fish; south 4 fish; hook & line/cast net only.	15-24" TL; Season varies by region; 75 fish limit or 150 fish limit with two or more licensed fishermen on board; hook & line/cast net only.

Note: A commercial fishing license is required to possess spotted seatrout for sale in all states with a fishery.

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Table 2. Commercial landings (pounds) of spotted seatrout by state, 2009-2018 (Source: ACCSP for years prior to 2018 and State Compliance Reports for 2018). Totals are for the coastwide fishery and may extend beyond the management unit. “C” represents confidential data.

Year	MD	VA	NC	SC	GA	FL	Total
2009	C	26,350	320,247		C	46,297	392,894
2010	C	20,870	200,822		C	39,374	262,326
2011	640	17,315	75,239		C	63,592	156,787
2012	C	116,767	265,016			61,676	443,747
2013	C	42,086	367,610		C	58,288	471,243
2014	C	90,051	242,245		C	37,710	370,110
2015	C	7,888	128,752			39,226	175,931
2016	C	18,483	274,583	C		23,105	316,412
2017	C	55,219	299,910			16,194	371,590
2018	C	17,526	128,922			21,893	168,500

Table 3. Recreational harvest (numbers of fish) of spotted seatrout using the FES effort calibration, by state, 2009-2018 (Source: MRIP for years prior to 2018 and State Compliance Reports for 2018). Totals are for the coastwide fishery and may extend beyond the management unit.

Year	MD	VA	NC	SC	GA	FL	Total
2009	20,285	67,687	1,857,890	370,370	1,363,056	639,102	4,318,390
2010	9,684	77,068	630,748	406,781	1,135,113	1,187,103	3,446,707
2011	11,042	644,074	723,502	193,487	762,304	931,353	3,265,762
2012	21,323	392,484	1,602,836	622,205	1,206,654	1,682,942	5,528,444
2013	0	153,706	1,107,957	440,751	937,046	1,122,151	3,767,047
2014	21,560	84,537	725,086	260,321	724,411	1,111,177	2,930,606
2015	11,619	23,062	249,260	311,106	740,932	504,137	1,840,155
2016	10,092	163,529	978,624	311,168	1,290,220	962,946	3,717,042
2017	24,255	172,288	1,217,834	647,679	1,060,493	977,797	4,100,346
2018	0	189,537	449,473	175,191	1,096,602	929,155	2,840,302

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Table 4. Recreational harvest (pounds of fish) of spotted seatrout using the FES effort calibration, by state, 2009-2018 (Source: See Table 3). Totals are for the coastwide fishery and may extend beyond the management unit.

Year	MD	VA	NC	SC	GA	FL	Total
2009	23,031	132,635	2,878,160	508,657	1,576,285	1,121,118	6,239,886
2010	19,623	137,095	1,277,174	598,963	1,310,371	1,883,653	5,226,879
2011	11,181	1,450,980	1,353,388	327,349	894,796	1,509,893	5,547,587
2012	36,380	690,821	2,720,028	1,002,364	1,231,246	3,097,576	8,778,415
2013	0	379,399	1,881,881	717,402	1,125,802	2,075,929	6,180,413
2014	46,870	166,182	1,451,592	382,155	825,903	2,111,818	4,984,520
2015	23,546	48,477	430,579	462,498	794,861	984,940	2,744,901
2016	20,024	341,977	1,724,492	475,749	1,740,513	1,625,597	5,928,352
2017	48,624	342,463	2,157,198	992,938	1,403,646	2,011,777	6,956,646
2018	0	226,786	658,555	414,442	1,489,609	1,701,275	4,490,667

Table 5. Recreational releases (number of fish) of spotted seatrout using the FES effort calibration, by state, 2009-2018 (Source: See Table 3). Totals are for the coastwide fishery and may extend beyond the management unit.

Year	MD	VA	NC	SC	GA	FL	Total
2009	160,644	549,846	4,462,890	1,001,740	2,125,707	5,177,671	13,480,869
2010	300,919	2,530,405	7,657,503	1,167,472	1,676,201	9,717,723	23,050,609
2011	21,353	3,462,963	7,420,553	743,581	1,348,499	7,839,264	20,836,213
2012	259,437	1,257,157	4,916,356	1,761,694	2,196,920	9,610,576	20,006,019
2013	22,780	738,474	4,278,671	2,190,796	1,320,699	5,722,715	14,282,174
2014	74,250	1,059,287	3,949,284	1,407,310	1,687,540	7,279,660	15,460,257
2015	242,150	834,028	4,824,088	1,147,982	1,763,638	6,131,007	14,943,497
2016	133,223	3,708,969	6,475,193	1,791,072	2,113,253	4,783,644	19,035,843
2017	107,611	3,154,997	5,147,567	1,949,554	2,436,867	5,845,559	18,642,226
2018	54,795	4,455,420	15,245,249	1,062,769	2,022,125	5,306,034	28,146,810

RECEIVED

AUG 15 2019

ASMFC

Mike Schmidtke, FMP Coordinator
Atlantic States Marine Fisheries Commission
1050N. Highland Street Suite 200 A-N
Arlington VA 22201

Dear Mr. Schmidtke

I normally do not write letters, but I would like to express a concern of mine. This is the basically the letter I send to the Commissioner of Virginia Marine Resource Agency.

On Saturday 8/10/19 I went fishing near the James River Bridge at Newport News. The fishing was horrible. I tried fishing for speckle trout around the bridge piers in my boat. I guess I threw several hundred cast with a Zman Diezel Minnowz , a Mirrow Lure 52M plug and a DOA Shrimp. No hit what so ever and no indication of fish on side scan with my fish finder. In the past I have always caught my limit in no time using these tried methods.

Once I got tired of trying for speckle trout I devoted my attention to croaker fishing. In trying for five hours I only caught six very small croaker, that I immediately threw back, and a pound and a half blue cat fish near the lift span of the James River Bridge, it went back in the water. My fish finder showed very few hits and no bait balls ever showed up. This is the third year I have tried for croaker with no success.

The water did have a usual color that I have never seen before. I filled an empty water bottle with some of the river water, it had a slight opaque color. In looking at my crude water sample, I did not feel that this was a water quality issue.

There was a guy taking a survey from your agency at the boat ramp, Huntington Park, and I answered his questions. He was very professional polite and courteous. I also talked to one of the police officers and he said there was a definite decline in people using the boat ramp there. The boat ramp appeared to me to be only 1/3 capacity.

My question to you is why the decline in fish or what controls could be place to bring fish population back. Are the days when I could fill up my cooler , cherish and remember my fishing trip while frying fish during the winter months over? Is there any other agency federal or state that I need to write?

As a child I had fond memories of my father and grand father taking me fishing and being able to catch one fish after another. If the present trend continues I feel that I will not be able to take any of my 2 grand sons fishing. I feel that if proper management of our fish resource is to continue, the only fishing I can do with them is on a video game and the only fish they eat might very well be a fish sandwich at McDonald.

In additional comments to your office, I feel that there is a lot of loss to revenue from hotel stays, restaurant and retail sales for this area. On the federal level I am asking what can be done to bring fish population back, for me in in my lifetime and my grandsons.

Thank you for your time

A handwritten signature in black ink, appearing to read "David Harris". The signature is fluid and cursive, with the first name "David" being more prominent than the last name "Harris".

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