Atlantic States Marine Fisheries Commission

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# MEMORANDUM

TO: Executive Committee

FROM: Administrative Oversight Committee

DATE: July 27, 2015

SUBJECT: **Review of Commission Guidance Documents**

The following memorandum summarizes the July 24, 2015 conference call of the Administrative Oversight Committee (AOC). The AOC's recommendations are included at the end of each issue. The Commissioners on the call were:

Doug Grout (Chair)
Louis Daniel
Dennis Abbott
Robert Boyles
Jim Gilmore

The Commission's guidance documents detail the operating policies, procedures, roles, and responsibilities of the Commission and its committees. These documents include the ISFMP Charter, Compact and the Rules and Regulations, the Appeal Process, Conservation Equivalency: Policy and Technical Guidance Document, Technical Support Group Guidance and Benchmark Stock Assessment Process, and the Advisory Committee Charter. Over time the way the Commission conducts its business has evolved and, in some cases, is not consistent with its guiding documents. Also, there are examples where the documents do not provide clear guidance. The purpose of this white paper is to identify where there are inconsistencies or additional clarification may be warranted.

**Issue 1: Appealing Non-Compliance Findings**
**Guiding Documents: ISFMP Charter and Appeals Process**
The Appeals Process provides a mechanism for a state/jurisdiction to petition for a management decision to be reconsidered, repealed, or altered. The process is intended to only be used in extraordinary circumstances where all other options have been exhausted. While the Appeals Process states out-of-compliance findings can be appealed, it fails to outline the specifics of how such an appeal should be addressed.

**Policy Questions**: Should the process for appealing a non-compliance finding be the same as appealing other Commission decisions? If the Commission allows non-compliance findings to be appealed under the existing appeals process, the timing requirements of a non-compliance decision and an appeal would be problematic. When a non-compliance finding has been made the Commission is required to notify the state and the Secretaries of Commerce and the Interior of the Commission's determination within ten business days. However, the Appeal Process provides that an appeal will be addressed at the next scheduled Commission Meeting. Given the

timing of our meetings this could be well after the non-compliance finding has been sent to the Secretaries of Commerce and the Interior.

Because a non-compliance finding goes through several bodies of review, it may already have an appeal process "built-in." Non-compliance recommendations start with the species management board, are reviewed by the Policy Board, and then forwarded to the full Commission. A further review is completed by the Secretaries of Commerce and the Interior, where states have the opportunity to justify their actions prior to a final compliance determination by the Secretaries. Does the Non-Compliance Process need to be amended to include an appeal process?

AOC Recommendation: The AOC recommends removing a state's ability to appeal a non-compliance finding from the Commission guidance documents. Since a non-compliance finding must be made at multiple levels within the Commission, the AOC felt the states had adequate opportunity to receive all of the relevant information and debate the issue prior to making a decision. Also, a state found out of Compliance by the Commission has the opportunity to present their case to the Secretaries of Commerce and the Interior prior to a final compliance decision.

**Issue 2: Conservation Equivalency Process**
**Guiding Documents: ISFMP Charter and Conservation Equivalency: Policy and Technical Guidance Document**

The Conservation Equivalency Guidance Document was approved more than a decade ago and the Commission's use of conservation equivalency has changed substantially. The Commission now uses conservation equivalency frequently during the implementation of an FMP. For example, Striped Bass Addendum IV established a coastal recreational baseline of one fish at 28 inches and if states wanted to deviate from the baseline they needed to prove they achieved a 25 percent reduction.

The Conservation Equivalency Guidance Document also details timelines for submission and approval of conservation equivalency proposals. These timelines may no longer be consistent with Commission practices. Also, many FMPs includes separate implementation timelines that are not consistent with the guidance document.

AOC Recommendation: The AOC recommends initiating a full review of the use of conservation equivalency by the Commission. The use of conservation equivalency has changed significantly and is being used to accomplish differing goals across the Commission's FMPs. The AOC feels the review should include, but not be limited to, an inventory of all active conservation equivalency programs, a review of submission and approval timelines, and a review of the transparency of the conservation equivalency process.

**Issue 3: Definition of a Final Action**
**Guiding Document: ISFMP Charter and Rules and Regulations**
Both the ISFMP Charter and the Rules and Regulations define what constitutes a final action. The Charter definition includes the establishment of quotas, allocations, approval of FMPs/amendments/addenda, emergency actions, and non-compliance recommendations. The Rules and Regulations include all of these except for emergency actions; therefore, there is an inconsistency between the two documents. Since the last modification of the Charter, the Commission has begun to conduct roll call votes for all final actions to increase transparency. The Rules and Regulations also reference the definition when describing the 2/3 majority requirement to amend or rescind a final action.

**Policy Question**: Should the definition of final action be expanded to be consistent with Commission goals to be transparent in its actions?
Possible language changes to the Charter and Rules and Regulations:

1. Final actions would be defined as: setting fishery specifications (including but not limited to, quotas, trip limits, possession limits, size limits, seasons, area closures, gear requirements), allocation, final approval of FMPs/amendments/addenda, emergency actions, conservation equivalency plans, and non-compliance recommendations.

AOC Recommendation: The AOC recommends modifying the definition of a final action consistent with the proposed definition above.

**Issue 4: Amendment and Addendum Process, including timing of Advisory Input**
**Guiding Document: ISFMP Charter**

*Public Comment on Public Information Documents*
The Commission's Charter outlines the process to draft and approve amendments and addenda. While most of the guidance is clear there are a few areas where additional specificity would improve the process.

The Charter outlines the timing for which the draft FMP or amendment is available for public comment but is silent on the public comment timing for public information documents (PID). Draft amendments must have four public hearings, the hearing schedule must be published within 60 days following approval of the draft amendment/FMP, the hearing document must be published for 30 days before the first hearing, and public comment will be accepted for 14 days following the date of the last hearing.

**Policy Question**: Does the Commission want to require the same timing provisions for PIDs? The Commission currently tries to follow this process for PIDs.

AOC Recommendation: The AOC recommends applying the same timeline to public information documents and draft FMPs/amendments as described above with the modification of only requiring <u>three</u> public hearings for both PIDs and draft FMPs/amendments.

*Public Comment on Draft Addenda*
The Charter is also silent on how long draft addenda are out for public comment. Currently, many of the FMPs require a minimum of 30 days public comment for draft addenda. This language is included in the adaptive management section.

**Policy Question**: Does the Commission want to require draft addenda to be available for public comment for a minimum of 30 days across all FMPs?

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| AOC Recommendation: The AOC recommends requiring a minimum of 30 days public comment on all draft addenda. |

*Advisory Panel Involvement in FMP/Amendment Development*
The Charter and Advisory Committee Charter provide mixed guidance on when advisory panels (AP) should provide input to the FMP process. In order to have clear guidance, staff suggests AP input should be provided at the following stages of the FMP/amendment development.

1. **During the development of the PID**. APs provide guidance to the PDT before the Board reviews the document for public comment.
2. **During the development of the Draft FMP.** After the Board gives the PDT guidance on issues to include in the draft, APs provide feedback to the PDT on those issues.
3. **During the public comment of the Draft FMP.** APs meet to give recommendations on the public comment draft of the FMP. This meeting should try to be scheduled after the public hearings so the AP can be presented with an overview of the comments received at the hearings.

**Policy Question:** Is this the correct timing for AP input into the FMP/amendment process?

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| AOC Recommendation: The AOC recommends using the three opportunities listed above to solicit Advisory Panel input during FMP/amendment development. |

**Issue 5: Technical Committee Decision Making and Staff Participation on Committees' Guiding Documents: ISFMP Charter and ASMFC Technical Support Group Guidance and Benchmark Stock Assessment Process**

*Voting and Decision-making*
Previously, the Policy Board had discussed how technical committees (TC) make decisions when the committee cannot come to consensus. The Board stated the overall goal is for committees to develop recommendations through consensus. The problem arises when a group cannot come to consensus. Some Board members are concerned the committee guidance is not as constructive when consensus is not reached since the Board is provided with differing scientific

recommendations and is left with making a policy decision on technical input. There is also concern when majority and minority options are presented, it is not clear how strongly the committee supports or does not support each of the options. To address this problem, the Policy Board decided the TCs would vote on issues when consensus could not be reached. The number of votes in favor and against each recommendation would be presented to the Board. Members of the Board expressed concerns voting may make some TC members uncomfortable and take away from science and add politics to the discussion.

AOC Recommendation: The AOC recommends that TCs continue to strive to find consensus whenever possible, however a vote should be taken if a consensus can't be reached. The same standard for voting would apply to stock assessment subcommittees (SASC).

*Staff Involvement*

The guidance document states Commission staff members are not members of TCs but they are members of stock assessment committees. Commission science staff often take part in TC deliberations and do work to support those discussions. Questions were raised if staff should be members of TCs if they are doing the work to support Committee work. If TCs were required to vote when consensus could not be reached then staff members would also vote on issues. The downside of allowing staff to vote is it may compromise the ability of staff to remain neutral on issues being presented to the Board if that is a Board priority.

**Policy Questions:** Should the TCs vote when they are not able to achieve consensus? Should the Commission staff be designated as members of TCs?

Possible options for Commission staff participation on TCs:

1. Commission science staff are not TC members and could not participate in or run analyses for TC discussion. State staff would support all TC work.
2. Commission science staff are not TCs members but perform analyses to support TC discussions and recommendations. They can take part in the deliberations of the TC for recommendations to the Board.
3. Commission science staff are members of TCs and perform analyses to support TC discussions and recommendations. They do not take part in the deliberations of the TC for recommendations to the Board.
4. Commission science staff are TC members and perform analyses to support TC discussions and recommendations, as well as take part in the deliberations of the TC for recommendations to the Board. Staff would also vote if the TC could not come to consensus.

AOC Recommendation: The AOC recommends staff is fully involved with conduct of analyses and deliberations of TCs and SASCs. If consensus can't be reached within a TC, then staff will not participate in a vote, however staff will participate in SASC votes when necessary.

**Issue 6: Definition of a 2/3 Majority**
**Guiding Documents: ISFMP Charter and Rules and Regulations**

Commission guidance documents state a 2/3 majority is required to establish and terminate an emergency action, as well as amend or rescind a previous final action. Currently, 2/3 majority is defined as the entire voting membership of a Board regardless of whether voting members are present. For the vote to carry, 2/3's of the entire voting membership of the Board must vote in the affirmative. This can be problematic when voting entities are not present or abstain from a vote. An absence, abstention, or a null vote is the equivalent of a negative vote. The current definition intentionally set a high standard (overwhelming support) for a Board take emergency action or to overturn previous actions to protect the integrity of our decision-making process.

**Policy Question**: Should the definition of a 2/3 majority be altered?

Possible options for the 2/3 majority definition:

1. Status quo
2. A 2/3 majority will be defined by the members present at the meeting (a quorum is necessary) rather than the entire voting membership.
3. A 2/3 majority will be defined by the entire voting membership, however any abstentions will not be considered when determining the total number of votes.

Note: When determining the number of votes necessary to achieve a 2/3 vote, there will often not be a whole number of votes needed. For example: If a management board has 11 voting members, it will require 7 1/3 votes for a 2/3 majority. In the event there is not a whole number of votes, the votes required will be rounded up to the next whole number.

AOC Recommendation: The AOC did not develop a final recommendation on this issue, but agreed the Executive Committee should continue the discussion. Members of the AOC noted the outcome of votes had been impacted by abstentions and absences and the process should be modified. Other members commented that they support status quo and feel there should be overwhelming support to change previous actions or declare an emergency.

**Issue 7: Commissioner Attendance**
**Guiding Documents: The Compact and the Rules and Regulations**

The Commission's Compact states the continued absence of representation or any representative on the Commission from any state should be brought to the attention of the state's governor. This directive from the Compact led to language in the Rules and Regulations stating a state official will be notified of unexplained absence of any Commissioner from two consecutive meetings.

**Policy Questions**: Should a state official be notified if a commissioner is absent for more than two meetings but has given an explanation for why he/she could not attend? Are two consecutive absences considered a continued absence? What state official should be notified?

Possible language changes to the Rules and Regulations:

1. The state official will be notified of the absence of any Commissioner or their proxy from two consecutive meetings.
2. The state official will be notified of the absence of any Commissioner or their proxy from three consecutive meetings.
3. After two consecutive absences of a Commissioner or their proxy, the Commissioner will be contacted in writing by the Executive Director to request a reason for the absences. The Executive Director will work with the Chair to determine if a state official should be notified of the absences.

AOC Recommendation: The AOC agreed Commissioner attendance is important for the Commission's success. The AOC felt that multiple letters going to Governors or other state officials may not be appropriate or constructive. The AOC recommends that a state's Executive Committee member be notified in the event there are repeated absences of a Commissioner. The Executive Committee member could then work with their state officials to determine what action, if any, should be taken.

**Issue 8: Appeal Criteria**
**Guiding Documents: ISFMP Charter and Appeals Process**
The Appeals Process provides a mechanism for a state to petition for a management decision to be reconsidered, repealed or altered. The appeals process is intended to only be used in extraordinary circumstances where all other options have been exhausted. Management measures established through the FMP/amendment/addendum process can be appealed. However, the appellant must use one of the following criteria to justify an appeal: decision not consistent with FMP goals and objectives, failure to follow process, insufficient/inaccurate/incorrect application of technical information, historical landings period not adequately addressed, or management actions resulting in unforeseen circumstances/impacts. The following issues currently cannot be appealed: management measures established via emergency action, out-of-compliance findings (this can be appealed but, through a separate, established process, see Issue 1 above), and changes to the ISFMP Charter.

P**olicy Questions:** Should the following appeal criteria be modified or clarified?
1. Decision not consistent with the FMP
2. Failure to follow process
3. Insufficient/inaccurate/incorrect application of technical information
4. Historical landings period not adequately addressed
5. Management actions resulting in unforeseen circumstances/impacts

AOC Recommendation: The AOC recommends the current appeal criteria be retained. The wording of the criteria is somewhat vague, but this is intentional to allow for states to bring forward their concerns. The AOC felt it would be difficult to provide a highly detailed list of actions that can and can't be appealed. The discretion of the Chair, Vice-Chair, and immediate past Chair is a key component in interpreting the current appeal criteria. The AOC has confidence the elected leaders will provide a fair review of any appeals brought forward by the states.

**Issue 9: Advisory Panel, Law Enforcement Committee and Technical Committee Participation at Board Meetings**

**Guiding Documents: ISFMP Charter and ASMFC Technical Support Group Guidance and Benchmark Stock Assessment Process**

Advisory bodies such as advisory panels, the Law Enforcement Committee and TCs provide advice to the species management boards. It is the responsibility of the Chair of each group to represent the viewpoints of all committee members, including opposing opinions when presenting to the management boards. There have been instances where chairs, in particular advisory panel Chairs, have expressed their own opinions and not those of the panel or have spoken on subjects the panel has not discussed as a group. This has raised concerns with both Board members and the advisory panel members.

**Policy question**: How does the Board ensure advisory body chairs follow the guidance outlined in the Charter and the Technical Support Group Guidance document?

Possible language changes for participation of advisory body chairs at board meetings:

1. Board Chairs should enforce the guidelines specified in the committee guidance documents where advisory bodies only represent the viewpoints of the committee in their presentation to the Board. Failure of chairs to follow the Board Chair's guidance may result in his/her replacement as advisory body chair.

2. Chairs should present their report and answer any specific questions relevant to their report. Chairs may not ask the Board questions or present their own viewpoints during Board deliberations.

3. Chairs should present their report and answer any specific questions relevant to their report. Once the report and Board questions are done, the Chair would move to the public seating.

AOC Recommendation: The AOC did not develop a final recommendation on this issue, however there were a number of consensus ideas. The AOC agreed the TC Chair (or other representative) should be at the table for the entire meeting. This person if often asked questions by Board members. The AOC also agreed there is a perception the Chair of the Advisory Panel has unfair access to the Board if they are allowed to fully interact with the Board during their deliberations. While the AOC did not reach a consensus, many of the members felt that option 3 above is most appropriate, but should only be applied to the Advisory Panel Chair.

# DRAFT PROCEEDINGS OF THE

# ATLANTIC STATES MARINE FISHERIES COMMISSION

# AMERICAN LOBSTER MANAGEMENT BOARD

**The Westin Alexandria**
Alexandria, Virginia
May 4, 2015

**These minutes are draft and subject to approval by the American Lobster Management Board.**
**The Board will review the minutes during its next meeting.**

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## ATTENDANCE

### Board Members

Steve Train, ME (GA)
Cheri Patterson, NH, proxy for D. Grout (AA)
Dennis Abbott, NH, proxy for Sen. Watters (LA)
G. Ritchie White, NH (GA)
William Adler, MA (GA)
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
David Pierce, MA (AA)
Mark Gibson, RI, proxy for R. Ballou (AA)
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
David Simpson, CT (AA)
Rep. Craig Miner, CT (LA)
James Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Paul Risi, NY, proxy for Sen. Boyle (LA)
Brandon Muffley, NJ, proxy for D. Chanda (AA)
Adam Nowalsky, NJ, proxy for Asm. R. Andrzejczak (LA)
Tom Fote, NJ (GA)
Roy Miller, DE (GA)
John Clark, DE, proxy for D. Saveikis (AA)
Thomas O'Connell, MD (AA)
Rob O'Reilly, VA, proxy for J. Bull (AA)
Louis Daniel, NC (AA)
Mike Ruccio, NMFS
Terry Stockwell, NEFMC

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

### Ex-Officio Members

Bob Glenn, Technical Committee Chair
Jon Cornish, Law Enforcement Representative

### Staff

Robert Beal
Toni Kerns
Megan Ware

### Guests

Kevin Chu, NOAA
Alli Murphy, NOAA
Dan McKiernan, MA DMF
Marin Hawk, MSC
Meghan Lapp, Seafreeze, Ltd.
Raymond Kane, CHOIR

The American Lobster Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May4, 2015, and was called to order at 2:30 o'clock p.m. by Chairman Daniel McKiernan.

**CALL TO ORDER**

CHAIRMAN DANIEL McKIERNAN: This is the start of the American Lobster Management Board Meeting. My name is Daniel McKiernan. I'm the chairman and I'll be chairing today's meeting. The first is a call to order and any announcements. Bob Beal.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Thank you, Mr. Chairman; just a couple of introductions. There are some new faces around the table.

I know this isn't a coast-wide board and we usually wait to have a coast-wide board to introduce the new folks, but I figured we should introduce them now and commissioners can get to know them as the afternoon goes on. I'll probably make the same introductions tomorrow morning during menhaden when the room is probably a little more full.

I would like to welcome back Senator Brian Langley from Maine. We've got Eric Reid as a new proxy for Senator Sosnowski from Rhode Island. We've got Paul Ricci as a proxy for Senator Boyle from New York. We've got two new staff members. Megan Ware is up front. This is Megan's sixth day at the commission, so she is pretty new. Introduce yourselves to Megan.

Megan is going to be taking over lobster over the summer time period as she ramps up and gets to understand the lobster fishery a little bit better; but she will be the FMP Coordinator for lobster eventually. Max Appelman is back in the back there. Max has been here for about a month; so he is a little more veteran than Megan, but not a whole lot. Welcome both of them and introduce yourselves; and any questions you have for them, they are more happy to get to know you guys.

One more thing; this board invited the New England Council to have a representative serving as a voting member of the board focusing on the crab issues, Jonah Crab. The New England Council appointed Terry Stockwell as their representative. Terry Stockwell is the current chair of the New England Fishery Management Council.

Terry has moved down to the end of the table; and Terry is going to be participating in this meeting as a voting member from the New England Council. He will not be participating in the Maine caucus; so he is will be wearing different hat at this meeting and handling the crab issues that way. The idea there is to have Terry serve as the connection between the New England Council and this board on crab issues since there are significant harvests of crab in federal waters. That's it.

**APPROVAL OF AGENDA**

CHAIRMAN McKIERNAN: Thank you, Bob. Next is the approval of the agenda. Are there any changes to the agenda? Brandon Muffley.

MR. BRANDON MUFFLEY: Mr. Chairman, I just want to, if I could, take Item Number 5, which is what I had on the agenda, to consider changes to LCMA 4 and 5 off the agenda. I have been working with Toni and the National Marine Fisheries Service to address this issue specifically to Area 4 separately and we will continue those discussions; so I don't think we need to have the discussion at this point at the board.

CHAIRMAN McKIERNAN: Thank you, Brandon. David Borden.

MR. DAVID V.D. BORDEN: Mr. Chairman, I would just like a couple minutes under Other Business to talk about Closed Area 2, if I might.

CHAIRMAN McKIERNAN: Certainly, David, we can make accommodations for that. Anything else?

**PUBLIC COMMENT**

CHAIRMAN McKIERNAN: All right, is there any public comment from the audience on any items that are not on the agenda today? Seeing none; we will move on. Toni, we're at number four, the Draft Jonah Crab FMP for public comment and the creation of a document that we hope we can approve today for public hearing.

**APPROVAL OF PROCEEDINGS**

No; I failed to approve the minutes. Bill Adler.

MR. WILLIAM A. ADLER: Mr. Chairman; that is what I wanted to ask to get it on the record.

CHAIRMAN McKIERNAN: Is that a motion, Bill, to approve the minutes.

MR. ADLER: Sure.

CHAIRMAN McKIERNAN: Second from Steve Train. Any objections? None; thank you.

**CONSIDER DRAFT JONAH CRAB FMP FOR PUBLIC COMMENT**

CHAIRMAN McKIERNAN: Toni, Item Number 4, the Draft Jonah Crab FMP.

MS. TONI KERNS: The Draft Jonah Crab Fishery Management Plan was on the supplemental materials and there are also copies in the back of the room. I'd like to note at the beginning of the document I realize that there are some missing pieces to the document. The plan development team is still pulling those together.

In particular, there is new information on final landings' information, because we are waiting for the 2014 landings that will be released any day now, to include those into the document. There was one state that was doing some checking on their information; and as soon as we have that information, we're good to go.

There is couple of other figures that we need to update in and those will also be included in the document. We are considering this document today to be released for public comment. We would have public hearings over the summer. The board would then select final options at the August meeting for approval of the FMP. Jonah Crab has long been considered a bycatch of the lobster industry, but in recent years there has been increasing targeted fishing pressure and growing market demand for the crab. T

The majority of the crab are harvested by fishermen on lobster boats, using lobster traps. We believe since the 2000's, landings have increased almost sixfold if the data comes out the way I believe it will. With the increase in the demand for crab, a mixed crustacean fishery has emerged that can target both lobster or crab or both species at different times of the year based on slight legal modifications to the gear as well as small shifts in the areas the traps are being fished.

The mixed nature of the fishery makes it difficult to manage Jonah Crab as a completely separate resource from the American Lobster Fishery without impacting the number of vertical lines and traps capable of catching lobster in both state and federal waters. The status of the Southern New England Fishery is poor; and as part of that rebuilding plan, this board has been reducing the number of traps used to fish for lobster.

Additional traps targeting Jonah Crab with the potential to fish for lobster could negate these trap reductions and pose management challenges. NOAA Fisheries has also implemented lobster rulemaking based on the Large Whale Take Reduction Team

recommendations to decrease the number of vertical lines in state and federal waters.

In order to reduce the risk of large whale entanglements, NOAA Fisheries has implemented two regulations recently; and that is one looking at the minimum number of traps in a trawl; and, two, looking at season closures. Southern New England was able to not have to implement either of those regulations because we had done so many trap reductions; whereas, the Gulf of Maine Fishery had to do three-month closures.

The board doesn't want to have to have any negative impacts on the number of vertical lines in Southern New England because we don't want to have to implement additional measures due to that Large Whale Take Reduction Plan. A complete picture of the Jonah Crab Fishery in state and federal waters is difficult to ascertain due to the mixed nature of the fishery.

In the absence of a comprehensive management plan and stock assessment, increased harvest of Jonah Crab may compromise the sustainability of the resource. The plan development team identified the following issues when looking at this plan:

One; that the crab resource is not directly regulated in federal waters, rather incidentally by lobster regulations. There are no crab regulations in federal waters or permits and license requirements. The landings have increased rapidly in the past ten years; and without new controls, effort could increase in an unregulated manner.

With continued unregulated harvest of crab, the long-term availability for harvest could be compromised. No minimum size protections, no restrictions on the harvest of females or egg-carrying females and there is no spawning biomass protection. Buyers are positioning to discontinue selling Jonah Crab unless it is managed sustainably, which would impact the ex-vessel price for crab.

The lack of universal permit and reporting requirements makes it difficult to characterize the catch and effort in order to manage crab. A Jonah Crab is not distinguishable from a lobster trap; therefore making it difficult to independently manage crab and lobster fisheries. Because crab traps are similar in design and function to lobster traps but are not regulated; there may be implications with the lobster fishery and the marine mammals, compromising the effectiveness of their management.

There is not a lot of information that we know about Jonah Crab; but the information that we do have has been pieced together from a patchwork of studies that either were looking at crab or looking at other species and found information on crab. They're distributed in the waters of the northwest Atlantic Ocean, primarily from Newfoundland to Florida. Jonah Crab are often confused with rock crab. Even though the species are biologically and taxonomically distinct, this confusion is due to overlapping habitat and the numerous regional common names attributed to both species.

This is a very important fact to remember, especially when considering the landings' information. The plan development team is no confidence in the landings' information of just Jonah Crab alone. We do believe that some of the Jonah Crab landings are accounted for under the rock crab landings due to the mixing of common names.

Oftentimes, depending where you're located regionally, Jonah Crab are called rock crab and rock crab are called sand crab; and so therefore in the dealer data base, Jonah Crab then get listed as rock crab. The life cycle is poorly described and what is known is compiled from the patchwork of studies.

Massachusetts, Rhode Island, Maine, and New Hampshire conduct inshore state water trawl surveys which are primarily focused on finfish and encounter Jonah Crab infrequently and thereby provides only minimal data. NOAA Fisheries conducts a trawl survey in federal waters, which collects data on Jonah Crab abundance and distribution.

This data hasn't been fully analyzed, but we do have some of it here to look at today. For the spring 2014 trawl survey from NOAA; it showed a record high abundance in the Georges Bank and Gulf of Maine regions. The 2014 data points are extremely positive outliers from the rest of the time series.

The spring survey in Southern New England has been stable over the time period, hovering the near median. The fall survey shows declining trends in Georges Bank since reaching the record high abundance in the early 2000's. Gulf of Maine has been fairly stable in the fall since 2000 and staying generally above the time series median. The fall survey has shown a recent increase in abundance in Southern New England.

This table shows the landings by state. If you can't see it up here, it is on Page 61 of the document. The point of this table is just to show that the majority of the landings are coming from the states of Massachusetts and Rhode Island. In the early 1990's ex-vessel values were approximately one to one-and-a-half million dollars.

Ex-vessel value increased in 2005 to $3.5 million; and from 2007 to 2011 the value fluctuated from $4.5 to $5.5 million; and then it reached an estimated $12.7 million in 2013. We can see this large shift in value in the fishery in recent years. As I said before, Massachusetts and Rhode Island make up the majority of the Jonah Crab landings.

You see here that Statistical Area 537 accounts for almost the majority of them. It is about 71 percent of all crabs landed in the two states; followed by Area 526 and 525. The monthly trends in landings – this is looking at just Massachusetts landings right here. There has been a change in the timing in the peak landings in Massachusetts for Jonah Crab.

From 2005 to 2011 the lowest landings occurred from August through December. Actually that is when the – yes, and then since 2012 landings have peaked from September to October. The red dotted line is the more recent landings and the blue solid line is the historical. In Rhode Island the landings for Jonah Crab mostly occur from December through March; and there has not been a shift in time for both states.

Typically this is when lobstermen are not fishing as hard for lobster and so we're seeing a trend of the time in the off period for the lobster where guys are going out and getting more Jonah Crab. That's providing more evidence for that mixed-use crustacean fishery. Then for gear types, the majority of the gear harvesting Jonah Crab are pots; almost 95 percent of the gear.

The purpose-shaded part of the pie is other; so those are likely to be misidentification in the dealer data base as what we're assuming; and then the dredges and trawls make up less than 1 percent of the total harvest. It is important for managers to respond quickly to increased harvest in U.S. waters. We have seen in other areas that have had high increases in fishing; that the Jonah Crab haven't shown downward trends.

In Canada Jonah Crab fisheries that developed, despite having prohibitions on landing females, having minimum sizes, TACs, both fishery-dependent and independent data have shown declines; so even in places where there are

regulations with increases in fishing, they have not seen a good response from the fishery.

The plan development team identified how a fishery management plan with complementary federal regulations could potentially benefit the fishery. There is sporadic information gathered on the species, making stock assessments difficult. We don't have a stock assessment for Jonah crab; so having a fishery management plan would put in place monitoring requirements, which would help us gather this information to do so.

There is a lack of consistent state-to-state management measures as well as to state-to-federal regulations and goals and an FMP would allow us to have some consistency. An interstate FMP establishes a framework to address future concerns or changes in the fishery or population through allowing the plan to do adaptive management.

An interstate fishery management plan establishes a framework to address future concerns or changes in other species' regulations, for example, lobster regulations or regulations that come out of the Large Whale Take Reduction Plan. Goals and objectives of the plan; these goals and objectives are what the management measures that are being proposed are related to.

The goal is to support and promote the continued development and implementation of a unified coastal management program for Jonah Crab. It is designed to promote conservation, to reduce the possibility of recruitment failure, and to allow the utilization of the resource by the industry. The management program should be sensitive to the need to minimize social, cultural and economic dislocation.
There are six objectives in the plan: to protect, increase or maintain as appropriate the brood stock abundance at level which would minimize the risk or stock depletion and recruitment failure; to optimize yield from the fishery while maintaining harvest at a sustainable level; to implement uniform collection analysis and dissemination of the biological and economic information; and to improve the understanding of the stock status and the economics of harvest; to promote the economic efficiency in harvesting in the use of resource; and to ensure that changes in the geographic exploitation patterns do no undermine the success of the management program; and, lastly, to successfully manage the Jonah Crab in a manner that is compatible with the commission's management of American lobster in harmony with state and federal management of other trust resources.

The first management program we'd be looking at is data collection. The first option is just to have monthly reporting. The option applies to the harvester reporting of catch, landings and effort data. Fishermen with a VTR requirement would have to fill out their VTR for all trips. The plan development team recommends that the following elements be recorded daily by fishermen harvesting Jonah Crab, either directed or non-directed, and reported on at a least a monthly basis to the state or agency they are reporting to.

We recommend we have total number of trap hauls, total number of pounds landed – both of those by the statistical area – the number of days fished and the soak time for each trap. Next is looking at coast-wide mandatory reporting. This applies to both dealer and harvester reporting of catch, landings and effort data.

This is built off of similar reporting requirements that the lobster fishery has. There would be 100 percent mandatory dealer reporting and then X percent of harvester reporting. The board would have to decide what X percent means. There is an option for 100 hundred percent harvester reporting, 75 percent harvester reporting, 50 percent

harvester reporting or 10 percent harvester reporting. Ten percent is equal to that of what is required by the lobster industry.

This would also be a two-ticket system to establish check-and-balance harvester reports and trip data. Catch estimates would be in pounds and dealer reports in landing weights would also be in pounds. Then the addendum identifies all of the specifics that would have to be on the trip report. Option 3 is exactly like Option 2 that I just went through, except for it also has fishery-dependent sampling included. This can come in either sea or port sampling.

The elements of that sea and/or port sampling program have not been determined. We would need the technical committee to determine what that would be. Once we actually have a technical committee established, we could fill in those blanks.

So, proposed management; we have proposed management for commercial measures. The first issue is looking at permits. If left open access, a crab-only permit would have the potential to increase the number of traps in both state and federal waters. A limited access crab-only permit would constrain proliferation in traps fished attributable to non-lobster trap fishing.

Option 1 is no new permit requirements in this plan, but the states and agencies must maintain their current permit requirements. We would fill in for the public so they understand what that means. For states like Massachusetts and Maine, who have a crab/lobster permit tied together, they would continue to have to do so.

For other states that have just a separate crab permit and lobster permit such as Rhode Island, then they could continue to move forward with that. Option 2 is permit requirements are decided by the state for fishing or landings; and we would recommend to NOAA Fisheries that they require a permit to retain Jonah Crab taken from federal waters by any gear.

Currently there are no permit requirements in federal waters. Option 3 is participation in the trap fishery would require a lobster permit, and all traps had to conform to the specifications of the Lobster Management Plan; so things like ghost panels, the size of the trap. Landings of the Jonah Crab by non-trap gears would require an incidental permit, and they would be subject to the landing limits that would be outlined in the upcoming issue number six.

Option 4 under permits; participation in the trap fishery will require a lobster license or a crab-only permit. Other gear types would require an incidental permit subject to the landing limits identified in Issue 6. If this option were approved, the board would consider if crab trap specifications such as trap size, vents, trap limits, trap tags would be necessary through a subsequent addendum.

Option 5 is participation in the trap fishery would require a lobster license or a new Jonah Crab trap permit. The Jonah Crab trap permit would be limited to the use of only traps designed to effectively target Jonah Crabs while minimizing the retention of lobster. In the absence of an approve design, no Jonah Crab trap permits should be issued.

Landing of Jonah Crab by the non-trap gears would still require an incidental permit, which would be subject to the landing limits outlined in Issue 6. If this option were approved, the board would consider if crab trap specifications would be necessary through a future addenda.

Issue 2, minimum sizes; there are a variety of minimum sizes that are proposed. They range from 4 inches to 5-1/2 inches. If we look at the information that we have from some sea sampling and port sampling, in port sampling we see that 34 percent of the crab that are caught are less than 5-1/2 inches; and in sea

sampling we see that 98 percent of the Jonah Crab that are caught are five inches or less for females; and 31 percent are five inches or less for males.

We think the size range that we have proposed – and if you just go back, Mike – between 4 and 5-1/2 represents sort of what is being caught and what is being seen out there. Issue 3 is minimum size tolerance. It has a range of no tolerance to 10 percent tolerance for undersized catch. We realize that crab come in a large volume; and in order to determine whether or not everything is the correct size, industry has asked that we consider for a tolerance level. At times there may be one or two that have gone in by accident.

Language that we would like the Law Enforcement Committee to review is it is unlawful for any vessel or person to take or possess or have on board, land or offload any Jonah Crab which is less than X inches in the longest shell diameter to the amount more than X percent of any batch unless authorized by a permit issued by the state or federal agency.

The enforcement personnel would sample one to five batches of Jonah Crab depending on the volume of crabs being landed or possessed at the discretion of that enforcement agency. A batch is just the shellfish in a separate container. Issue 4 is crab-part retention. Option 1 is crabs may be retained or sold in any form. Option 2; whole crabs must be retained and sold. The state of Maryland does have a small parts – it is a claw fishery, so that is why this option is here. It is a small fishery but important to the state of Maryland and is described in full in the document.

Issue 5 is prohibition of retention on egg-bearing females. If the minimum size were to be set correctly, then the option would not be an issue; but the PDT strongly discourages the use of Option 1. Option 1 is no prohibition on the retention of egg-bearing females. Option 2 is egg-bearing females may not be retained. Option 3 is no females may be retained and a 1 percent tolerance for females of which is the total percentage of the catch that is female cannot exceed 1 percent.

Issue 6 is an incidental bycatch limit for non-trap gear. Option 1; no coast-wide possession limit, so no possession limit. Option 2 is 200 pounds per day up to a maximum of 500 pounds per trip. Recreational measures; we have two measures; one, no coast-wide possession limit; or Option 2, 50 whole crab or a 100-claw possession limit for recreational fishermen. Issue 2 is exactly the same as the prohibition on egg-bearing females; either no prohibition or egg-bearing females may not be retained. Cherie has a question.

MS. CHERIE PATTERSON: How come there is no Option 3 there similar to the commercial where it indicates no females may be retained?

CHAIRMAN McKIERNAN: I think one of the themes that we expressed during our conversations for this plan was the non-commercial fishermen include toddlers with beach buckets; and I think we were concerned about being overly restrictive to that sector of the public. That's certainly something we can move forward with, but this is primarily an offshore animal that is being taken in large quantities; so we didn't want to get too carried away.

MS. KERNS: De minimis; the de minimis requirements, there are two options; either having de minimis with commercial and recreational separate or recreational and commercial combined. They both look the same. For the preceding three years, the average landings constitute less than X percent of the average of the coast-wide landings for the same period.

The exemption that we would give to those states that are de minimis would be you

wouldn't have to port and sea sample. The percentages would be 1 percent, 2 percent or 3 percent. There are other sections of the document that I have not gone over in full detail. They include a habitat section. It is minimal.

We don't have a lot of information on habitat, so therefore we don't have a lot to put in there; nor do we have a lot of recommendations for habitat except to do research on it to have better information – impacts of the fishery management plan, social and economic, the fishery and biological impacts.

There is an adaptive management program designed similar to those that we have in our other plans that allows us to do amendments on the plan that covers a full range of measures both for the fishery itself, designing trap things down the road, to make it easier for the board to make changes to the plan.

There is a section that describes the cooperation with the other management groups to describe what we've done for the New England Council. There is information on the management and research for biological, social and economic and habitat sections. The biological section describes information that would need to be collected in order for us to do a stock assessment moving forward.

There is a section on protected species and the interactions with protected species that we have put together with NOAA Fisheries based on the last DEIS that they did for American lobster. That is everything that I have in the document. The plan development team hopes that the information contained in this document composes a wide range of options that would get us information to bring back to the board from those that are fishing for crab in order for you to make management decisions in the future.

We're looking for this wide range of information coming back for them, to get better information on the fishery that we don't currently have. We also, at the end of the meeting, are going to look at advisory panel members. We would have an advisory panel meeting as soon as we had panel composed if this document were to move forward.

CHAIRMAN McKIERNAN: Thank you, Toni. Can you clarify for the board what aspects of this document might change after this meeting and before we go out to public hearing.

MS. KERNS: I will be adding the landings' information for 2014; and that's spattered throughout the document where that would need to be updated, as well as ex-vessel value would be updated. The landings by gear type would be updated. If we can get the information finalized, we would also update some information on the number of reported trips directed on crab versus those directed on lobster; but that may be tentative. Lastly, we would add a figure that shows what a Jonah Crab looks like, if we can get one that is satisfactory to the PDT. I don't think the one I have showing is to the satisfaction of some of the PDT members.

CHAIRMAN McKIERNAN: Let's take some questions. Roy.

MR. ROY MILLER: Toni, I don't believe I heard whether measures, if eventually adopted, would apply to rock crabs as well. What is our intention in that regard?

MS. KERNS: The board has only asked for this to apply to Jonah Crab; so currently it would only be for Jonah and not for rock as well.

CHAIRMAN McKIERNAN: Cherie, did you have your hand with a question?

MS. PATTERSON: Yes; I have about three items here. Under Issue 2 with permits, you don't

really have any justification for each of those minimum sizes. We feel that it is pretty important to have reasoning why the public is going to be deciding on these particular sizes.

They need justification; they need to understand what those are. Is that going to be part of that reference table and figure for them to be able to formulate their own comments and opinions based on those minimum sizes? It also would help the board to justify which options to support.

MS. KERNS: The reference tables and figures are in the document. The tables didn't get positioned here, but we will say which tables they are. It is discussed in the description of the fishery section already, which is Section 1.1.3, I believe; so I can reference back to those pages in the document.

CHAIRMAN McKIERNAN: Cherie, I think there are two issues that are in play here; and one is the size at maturity of the species and the other is the market standards that are currently in place. Bob, can you speak to the size-at-maturity information or is that something is still on –

MR. ROBERT GLENN: As far as maturity for Jonah Crabs go, it is a question that the PDT and also my staff has been trying to look into. There isn't any published maturity studies specific to Jonah Crabs for the New England area. There was a published study from Southwest Nova Scotia; and they basically found a hundred percent maturity occurring up near the five-inch mark.

Then another study that is in the gray literature that was done off the Mid-Atlantic; and it shows that it is down around four inches. Presumably, the New England Region will fall somewhere in the middle. We have put out several grant proposals trying to get the funding to conduct a maturity study on Jonah Crabs that we could hope in the future would inform that better. Our expectations are that it would fall between four and five inches.

Along that line right now, the current market standard is – if you look at the size frequencies of what fishermen are landing for the market; the vast majority of crabs are – and I believe it is in the table in the document. I'm not sure which one, Toni, but a vast majority of crabs that are currently landed are over 4-3/4 inches right now; and over 95 percent are male crabs. The females are a lot smaller. Things like prohibitions on females and anything lower than a 4-3/4 inch minimum size would have negligible impacts on the current status of what is currently landed.

MR. ADLER: First of all, I'm looking at a sand crab up there in my world; so there needs to be a very good explanation with pictures as to what we're talking about. You just said we're not covering rock crab. Well, I think we are covering the rock crab; and so at the hearings you need to have a front view and a top view, whatever, to explain to the people going through this exactly what we're talking about.

I think we're talking about the crab that we call the rock crab, which is the one with the bigger claws. That to me is I see those, too, and they're thinner claws. That is the first thing; so we need that. Also, on the permit section, my question is, is the fact of an endorsement – rather than getting a whole new permit, an endorsement an option or can it be an option were this to pass, because I think that would be – if you're going to do something like that rather than have these guys have to get another permit; that an endorsement might be worth it.

The declawing section, which was interesting, but I don't know what the stone crabs who have declawing, what their mortality rate is if you were to allow the declawing like they do of ripping off one claw but throwing the live crab back. I don't know what the mortality is on

that; and I don't know if that information could be added to that section.

Also, I find that Page 20 to 23, actually to 24, is going to confuse the heck out of everybody when they read the thing and they go, you know, all this over a little crab; that we're going to have to do this, we're going to have to do that. I know you've got to put it in there and it is in there; but I just envision people getting carried away with how complicated everything between Pages 20 and 24 are, if they're adopted and everybody goes, oh, this is just – you know, this is too much.

The other thing is will the technical committee be able to get more of the information clear soon and eliminate some of the, well, little is known about this and we don't know about that and not known here, because I'm going to be listening to people going, well, go and find this out before you come back to us with this proposal. The same thing is going to be necessary while you would need to explain why passing this FMP will help get a stock assessment, because I've heard this before in other issues, other species where they go you go do a stock assessment first and then come back and talk to us. So, if it could be explained that this FMP will help having a stock assessment; that might stop some of those comments at any particular hearing. I think I'll stop there for now.

MR. EMERSON C. HASBROUCK, JR.: Thank you, Toni, for your presentation. I've got a couple of questions, and one of them is similar to the issue that Cherie raised on size. I'm not sure I understood the response, really. Do we have accurate information on size at maturity or is it that it is just felt that a 4-3/4 inch minimum size is going to include males and females that are mature, because they will mature before that size? I'm looking for some clarification on that.

MR. GLENN: We currently do not have estimates of sexual maturity for Jonah Crabs for the New England Region; but we know that from studies that were done in the Mid-Atlantic as well as those in Nova Scotia that the upper and lower bounds of maturity in those two areas are the four and five inches. It would be our expectation that maturity ogives for Jonah Crab would fall in the middle; but we haven't been able to conduct a study yet.

CHAIRMAN McKIERNAN: Emerson, some of the issues that came out at the scoping meetings last summer, everyone recognized that there are market standards for this species and that very small few small crabs are being landed in the traditional markets. We heard stories and fears of growing harvest for bait purposes; that folks might take small crabs not for market but actually to use as whelk bait or other species. That is one of the objectives of creating a minimum size and not just to protecting the spawners and not just protecting the market situation, but to thwart a growing bait fishery.

MR. HASBROUCK: Yes; and markets change. Just there is very little demand now for smaller crabs, it doesn't mean that there might not be demand in the future for smaller crabs. Toni, you had also mentioned in one of the options about a Jonah Crab pot; somebody actually built a specific Jonah Crab pot or do we have a definition of a Jonah Crab pot or is that something that we're hoping somebody will develop here in the not too distant future?

CHAIRMAN McKIERNAN: Emerson, let me answer that. In most of the New England states, it is simply the same pot and fished under the same authority. There has been some work done in Maine. With slight modifications, they were able to enhance the retention of Jonah Crabs and to some degree minimize the catch of lobsters; but it hasn't been pursued.

To my knowledge there isn't a viable directed Jonah Crab Fishery; but having said that, what we're looking at in Southern New England is a

lobster management plan that is aggressively trying to control fishing mortality through trap controls. Unless we have a true definition of a Jonah Crab trap, in my view it has the potential to undermine the lobster management goals and the conservation goals attributable to vertical lines.

Based on the management side, in my view the actions that we're about to take with a 50 percent reduction in trap allocation over the next six years is really, really significant, but it won't mean anything if Jonah Crab traps are going out and are capable of taking lobsters.

We're serving this up in the plan not suggesting that we think the answer in the future is a Jonah Crab trap; but if there is a Jonah Crab trap, then it ought to be used and not lobsters. If there are people who are pursuing the Jonah Crab Fishery and jurisdictions that involved in this process feel the need to allow them to continue, it is going to be incumbent on them to figure this out; but in the northern New England states it is just one trap.

MR. HASBROUCK: So we're hoping that somebody within the industry is going to come forward and say I've modified my lobster trap in this manner and it is more efficient at catching Jonah Crabs and therefore we should be using this type of pot; is that kind of the intent?

CHAIRMAN McKIERNAN: It all depends on how you're trying to manage these two fisheries right now as one. Right now there is only one fishery and it is the lobster fishery. From all we can tell, 99 percent of the Jonah Crab landings are being taken by licensed lobstermen. We're dialing down participation levels in that fishery; and it is another question as to whether or not we can dial up fixed-gear fishing pursuing Jonah Crab traps and not compromise the lobster plan.

I think we're simply setting the bar – we're challenging the industry and jurisdictions involved with this that if you're going to have traps outside of the lobster trap fishery, then it has to be something that is verified and documented. Right now it is neither; and that is one issue that I will raise with Toni.

This particular permit section, Option 1, which is sort of status quo, doesn't really speak, in my mind, to the real problems we have with status quo. For example, the National Marine Fisheries Service tells its lobster fishermen any trap on the boat is a lobster trap. It doesn't matter how it is rigged; it is a lobster trap.

But if you don't have a lobster permit, you're free to set Jonah Crab traps without a permit and without limits. There is a real gap in the rules right now in the fixed-gear fishing rules created by this incomplete management system so that we're trying to really shore it up and put things where they need to be.

MR. HASBROUCK: I didn't see anything in there about trap markings, you know, tagging of traps; was there any discussion about including markings specifically for Jonah Crab pots as opposed to the markings required for lobster pots?

MS. KERNS: If we move to a crab-only permit, in the options that have that, so Option 4 as well as under permits and then I believe Option 5; then in a future addendum the board would have to consider if they want to do specifications for traps; so that would trap sizes, vents, limits, tags and another other pieces that would go along with that.

It just really depends on how the board moves forward with regulating the permits for the fishery. Do they want to keep it tied to the lobster fishery or does the board want to allow for a separate trap fishery? I didn't put it up in the presentation because the table is just incredibly too small to see on the board; but on Page 63, Table 5 describes the current state regulations.

You can see that the states of Maine, New Hampshire and Massachusetts and Connecticut all regulate their crab fishery tied to their lobster fishery. The one state that has a large volume of landings that does not do that currently is the state of Rhode Island. Then in federal waters there is no crab permit; but in order to retain the lobster, any gear that allows you to retain lobster or catch a lobster, then you have to have a lobster permit.

MS. PATTERSON: Yes; under Issue 4, crab-part retention; under the Option 1, I would suggest just putting crab parts in that definition; for example, crab parts such as claws and legs may be retained and sold in any form. Under 4.2, I had this question earlier about the recreational fisheries management measures.

Because New Hampshire has its recreational industry very well tied in with the commercial industry with similar regulations, I would recommend putting in Option 3 where no females may be retained might be an enforcement issue for us without that option presented.

MR. STEPHEN R. TRAIN: Toni, I think you've done a fabulous job getting this out. There was an awful lot of information that you had to siphon out of different sources for a fishery that has not been managed. This document, as broad as it is, has an awful lot of stuff in there. I'd like to see it go forward to public hearing and whittled down further from there.

I do have two issues personally with it. I have a large problem with the claw landings or the parts' landings. I know Maryland has a fishery on it. I would like to see another way to allow that to continue only in Maryland and not keep the document to include it. A parts' landing allowance in the document scares the hell out of me.

The other part is the directed crab fishery. If we have a very small issue with a few people that don't have a lobster license, there has got to be a better way to handle that than to allow the document to include a directed crab fishery aside from the lobster fishery. It is important to me that we tie these together, period.

MR. BORDEN: Mr. Chairman, just in terms of comments, having participated with you and the PDT on about six different calls on the document, I totally concur with Steve's point that I think the document over the last couple of weeks has really come together and is a tremendous improvement over the earlier versions of it. The one suggestion I would make is that under minimum sizes, just for the sake of consistency make all of those increments the same at a quarter of an inch; so there would be a size at every quarter of an inch.

The other suggestion I have goes along with Toni's recommendation, which is she is going to be updating this document, I think the document can continue to be improved if the PDT gets to work with the staff and the chairman of the board and kind of fine tune some of the language. I think some of the confusion, particularly on the permits, can be resolved pretty easily. I would hope if we're going to pass a motion and send it out to public hearing; that Dan and the PDT have the ability to do that.

CHAIRMAN McKIERNAN: Can we get a motion to approve this plan with amendments as outlined by Toni that will be coming forward for those of those final details. I've got Steve; a motion to approve the draft addendum.

MR. TRAIN: **Do you want me to word it or do you want just put what you just had up there? I move to move this forward – I don't know, however you want to word that.**

**CHAIRMAN McKIERNAN: Move to approve the document for public hearing as modified today by the board. Second from Bill Adler.** Terry, did you want to speak?

MR. TERRY STOCKWELL: Mr. Chairman, before the board votes to move this out for public comment, I just wanted to provide a few comments from the New England Council. I wanted to begin by thanking the commission and the board for allowing the council's participation. Toni attended our winter meeting in January and briefed the council on the development of the document to that date.

I'm just going to highlight a few of the discussion points that the council had at that time. One was the council noted that the Jonah Crab Fishery is almost entirely a federal waters fishery, which is within the council's responsibility. The council noted that there are some catches in the red crab and other fisheries, but they're very small relative to the trap fisheries.

There is the concern about the potential of increased gear conflicts and concern about the impact on the ongoing final development of the Omnibus Habitat, concern about bycatch issues. If managed by ASMFC, it wouldn't fall under the new SBRM. Our general counsel advised us that there might be some legal nuances, but he didn't elaborate.

Consequently, the council voted to make Jonah Crab management a 2016 priority. It was passed in the New England Council by a vote of 14-0-1. For those of you who follow the council process, the council makes its annual decisions on priorities in the fall; so this will go into the hopper with the rest of the council business. Again, thank you for allowing the council to participate in the process.

MR. MICHAEL RUCCIO: I just wanted to echo our support for the document moving forward for public hearing. We've been full participants in the PDT process, and we've had a lot of conversations with folks through the development. I would like to echo the support for Toni and the folks on the PDT for saying that I think the document has improved substantially over the past few drafts.

That said, there are still some things that we have our eye on, I guess, and we'll be looking for. Some of them have been raised here. I think the claw-only fishery without understanding what the discard mortality is for crabs that have been declawed; it is difficult to understand how that would work in practice and how that wouldn't undermine any conservation objectives for the stock.

Not knowing the size at maturity I think makes it difficult to rationalize a minimum size for the fishery if it is going to be predicated on biological implications alone. If it is a market factor, then fine, I think those things will come out in public hearing or perhaps more work with the PDT. As I said, we do look forward to it going out for public comment and look forward to further discussion.

MR. ADLER: Mr. Chairman, I just wanted refer to what Terry said and ask whether that means that the federal council is going to develop a Jonah Crab Plan like we're trying to do here; and if so, are they going to listen to us for a change?

MR. STOCKWELL: I wish I could give you a straight answer, Bill. I read you the motion that was made in reference to making Jonah Crab management a priority, but it may or may not rise above the bar this fall. As you probably know, the council does have a Red Crab FMP; so there is concern and interest from some of the council members for pursuing a Jonah Crab FMP as well.

MR. BORDEN: I'd just like to follow up with Bill's comment and say that the plan development team – and actually Mike's comment that the plan development team I think went out of its way to try to address the concerns that have been voiced both at the council meeting by council members and the

National Marine Fisheries Service staff and included a much wider range of options so that those issues were addressed.

CHAIRMAN McKIERNAN: All right, if we don't have any more comments; can we take a vote on the motion. **I will read the motion: motion to approve the document for public comment as modified today by Steve Train and seconded by Mr. Adler. All in favor; opposed; null; abstentions. It is unanimous, it looks like.**

MR. TRAIN: Mr. Chair, I have another motion related to this. I believe staff has it. If we could bring it up, I think it is important at this stage. If I get a second on that, I'll explain it.

MR. DENNIS ABBOTT: I'll second.

CHAIRMAN McKIERNAN: Would you like to read it on the record.

MR. TRAIN: **I move to establish a Jonah crab fishery control date immediately. The intention of the control date is to notify current and potential new entrants to the fishery, especially those who fish in jurisdictions that do not require a specific permit for harvest of Jonah crabs, that should the board establish limited entry programs for the Jonah crab fishery, eligibility to participate in the commercial fishery in the future may be affected by the person's or the vessel's past participation based on verifiable documentation of landings and effort and/or licenses possessed prior to that date.**

CHAIRMAN McKIERNAN: And the second is Dennis Abbott. Any discussion? Steve, do you want to discuss it at all?

MR. TRAIN: Some of the discussion that came up earlier was that some people didn't necessarily have a current lobster/crab permit and that the federal government didn't require one fishing in federal waters. Although some states required you to have a lobster/crab license to land, some did not. So there were people fishing that may not – or may have been fishing that may not have had a license. To ensure we don't have a ton of them run out of the woodwork and say they were one of them, we need some sort of documentation that they either had a license or have landed Jonah Crab.

MR. ADLER: I'm not opposed to this because control dates can be moved around. Having a license, the intention of this would be, if we did establish it and it stayed, that lobster fishermen with lobster permits would basically be okay; and if they landed some crabs, no numbers, that they'd be okay; is that the intention here?

MS. KERNS: Bill, the way that the motion reads it says "landings and effort and/or licenses", so I read this as you don't even necessarily – depending on what the board decides in the future, you have the option of you don't even have to prove that you landed. You just have to prove that you had the necessary license. That is how read the "and/or". Steve, if that is correct or incorrect, let me know.

MR. TRAIN: The intent is not to take away anything from anybody currently in the fishery with a license. The intent is to prevent claims that I am in the fishery from people that have no license to actually in it. If somebody can prove they've landed without a license because it is allowed in some states, then they would be in. But if they cannot, the only way they would be in is if they have the lobster/crab license.

CHAIRMAN McKIERNAN: And I would point out that they would be in something, and that something is what the board will decide going forward as one of the permitting options.

MR. RUCCIO: Mr. Chair, I think you've captured it very well. All this does, in my mind – and I will state that this is something we support. If you're going to discuss potential limitation of the fishery, I think it is always wise to have some control date consideration. This just lays

down a marker that doesn't commit the commission to any particular course of action in terms of how it utilizes that date.

I think as this is currently crafted, it just puts people on notice that we might treat history differently after this date; and then before the date, it puts people on effective public notification that if you have been participating, maybe it is time to think about getting your records in order and make sure you have things.

This doesn't preclude if there is any kind of limitation program that goes in place a fully vetted and developed process for limited entry that would include qualifying criteria, potentially appeals, those kinds of things. This in no way, shape or form crafts that program ahead of time or makes any kind of predeterminations about how that will go.

This just sets down kind of a line in the sand that says history may be different before and after that line; so you're on notice. We've used this for a number of fisheries that have eventually gone to limited entry, and I think it is good practice and good policy to have these if you're going to consider limited entry; not that you even have to. Once you have the date, you can use it or not; but it is better to have it now than to not have it, I think.

CHAIRMAN McKIERNAN: Thank you, Mike; that was well put. Mark Gibson.

MR. MARK GIBSON: I support the motion. I think Mike just well spoke to what I would have like to have said; so it is worth the motion.

CHAIRMAN McKIERNAN: Any other comments on the motion? Yes, Craig.

REPRESENTATIVE CRAIG A. MINER: Just a clarification; so by establishing this date – I'm thinking that many of these fisheries are going through transition – is it the intention that Connecticut didn't have anybody that was appropriately licensed, they would be unable to get someone licensed after that date?

CHAIRMAN McKIERNAN: The default condition in most states is lobstermen with authorized vessels and tagged traps have been landing Jonah Crabs. I think going forward that is an outcome that the PDT would like to see go forward. What you're seeing on the board is in those instances where someone is outside of the realm of lobster-permitted fishermen and might have been fishing legally but had no permit and no reporting requirements, or whatever, this establishes a baseline that if they've been doing it prior to this date, they might have some consideration in the future depending on what outcome we come up with in the permitting schemes.

REPRESENTATIVE MINER: I guess I'm just thinking that we don't – I was saying to Dave Simpson when I was a kid I think these were a nickel and now they're not a nickel. I don't know what the market price is that drives people to do things that they don't currently do today. I'm just a little concerned about a state that I don't think has a market for this – at least it isn't an industry that I'm aware of in Connecticut – being foreclosed in the future, especially when we've chased them out something else.

CHAIRMAN McKIERNAN: This particular control date wouldn't foreclose that. What would foreclose that is one of the permitting options, but the permitting options that you see here all – many of them, if not all of them, attempt to accommodate the traditional lobster fishery to take Jonah Crabs. Emerson.

MR. HASBROUCK: I'm a little confused on the intent here. If somebody has a lobster license but has not landed any Jonah Crabs; are they covered under the control date? That is the first part of it. The second part is if somebody is landing in a state that doesn't require a permit; so they have history, but there is no permit; are

they going to be excluded? If perhaps the chairman or the maker of the motion could help clarify that for me, it would be appreciated.

MR. TRAIN: The intent of that motion is that both of those people would be allowed in the fishery. If they currently possess a lobster license or a lobster/crab license, depending on the state, or if they documented they have landed crabs in a place that did not require a permit to do so, then they would be protected in this fishery. That's the intent of the motion. It would be the speculative entrant from some place that has not participated in the fishery that would be excluded because of this control date.

MR. HASBROUCK: So we would allow all of those people who currently have lobster permits but who have never landed one pound of Jonah Crabs; we would allow them to participate in the future in a Jonah Crab Fishery; is that correct?

CHAIRMAN McKIERNAN: I think we're getting ahead of ourselves in terms of debating the final aspects of a limited entry scheme. This is simply the control date that landings or participation after, immediately, presuming today or whenever NMFS could adopt a complementary measure, those landings wouldn't count toward future participation if the limited entry scheme were so constructed.

You can see in the document we're trying to wrap our hands around this fishery that is difficult to document in some jurisdictions because there isn't a permit requirement. It is my experience as a former lobster biologist and someone knowledgeable of the lobster fishery, if someone is commercially lobstering in Southern New England and has never landed a single Jonah Crab, I'd be shocked. Any other questions? Brandon Muffley.

MR. MUFFLEY: Just the one question; so the people who are being notified are those that hold some sort of federal or state lobster permit; those are people that we're considering being notified of this issue, because it is just saying here we're going to notify current and potential new entrants. I'm just looking for clarification on who exactly we're notifying. New Jersey doesn't have anything specific to Jonah Crabs, but obviously we have lobster permit holders; so that is who getting notified on this?

CHAIRMAN McKIERNAN: I mean, that is part of the challenge that we have is that we hear stories that there is a sub-component of the industry that doesn't have a lobster permit and has not had to report in their jurisdiction but may have been active. If we can't find them, you're right, it is hard to notify them; but I think as a general notice to all commercial permit holders; that is what I would recommend.

If you have a general mailing, you could do it to all permit commercial permit holders to let them know that Jonah Crab landings after this date may not be considered in the future going forward. This is rather broad, but again it is only being done, as Mike Ruccio described, as a line in the sand so that in future we can take an action that might use this date.

MR. RUCCIO: To Mr. Muffley's point, should this pass, we would work with staff to develop a Federal Register Notice that formally establishes the date; and it would likely be the date that we publish it in the Federal Register. We would then send notification of that to current lobster-permitted, current lobster dealers, kind of cast a wide net.

We'd have kind of our roll-out machinery that would go into effect and try to cast a wide net so people are aware of this. Then that could be retransmitted through whatever permit system or whatever notification system you have in your state and in other states. Without the requirement for a permit federally, it is a little bit more challenging to target the messaging;

but I think with technology the way it is now, we would get that out fairly effectively.

CHAIRMAN McKIERNAN: Anyone else? All right, can we vote on the motion? All in favor of the motion – yes, 30 seconds to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN McKIERNAN: All right, let's vote on the motion. All in favor raise your hand; any opposed; any null votes; any abstentions**. It passes ten to one no with one abstention**.

MS. KERNS: I just have a couple of questions for those states – so we have gotten permission for the PDT to make some changes to the document. I think that we can do rather quickly. I'm looking towards a couple of my PDT members. We have a couple of requirements – as Bob said before under the Herring Section – to have the document out for 30 days before the first hearing and then we have to have the document out for 14 days after the final hearing.

Depending on how much time we take to update the document, it may start to get close to those deadlines, so we'll have to be careful in order to try to have as much information to the board in time for meeting materials, which I'd like to do to not have all of this on supplemental materials. If we do require additional time, then some of this information may be on supplemental materials.

David, do you think that we can probably get there pretty quickly? That is a nodding of the yes head. Then we'll find out from which states who want to have public hearings in an e-mail, but we'll have to set those up rather quickly as well in order to meet the time frame. So if we could just work with staff in doing that as quickly as possible, we'd really appreciate it.

CHAIRMAN McKIERNAN: Bill Adler, do you have a question?

MR. ADLER: Yes, actually going back to the motion we just passed; and when you say immediately, so therefore today's date is immediately; is this the official date of the control date?

CHAIRMAN McKIERNAN: NOAA Fisheries is going to publish a proposed control date through the Federal Register, so it would be on their own schedule. Any other participating states that don't have any permit limits or any limitations might want to notify their fishermen as well.

MR. ADLER: All right, so we're not establishing today's as the control date; correct?

CHAIRMAN McKIERNAN: That's right. Jim Gilmore.

MR. JAMES J. GILMORE, JR.: Mr. Chairman, just a clarification. I think the vote was ten/one/zero/one.

CHAIRMAN McKIERNAN: All right, Toni, let's move on to Item Number 6. Craig.

REPRESENTATIVE MINER: Well, it kind of goes to my point. I mean, in terms of public notice, if this date is going to become a date that some future this fishery is going to be based on, I don't know how you can do it today. Maybe that is just the world I grew up in, I don't know, but it just seems to me that without any notice there isn't a fisherman today that can change anything from where they are today.

It almost seems inherently unfair; that's all. I mean, if we were going to make motion to establish a date at some point in the future where you could allow transactions that may actually be in the works right now; that is different than having something that established that date today. That is kind of my opposition; but I guess that's over.

**CONSIDER ADDENDUM XXIV FOR FINAL APPROVAL**

MS. KERNS: The next agenda item is Addendum XXIV. To remind the board, Addendum 24 is looking at compatible regulations between state and federal in particular for the trap transferability rules. NOAA released trap transferability rules; and some of those that were released were not consistent with state measures.

Addendum XXIV looks at providing consistency between state and federal measures for these plans. We are in the last step of the addendum. Today we are considering options for final approval by the board. The final approval will be a roll call vote. The first issue under this addendum is looking at the conservation tax.

The commission's plan has a 10 percent conservation tax on full and partial business transfers. The federal plan only had a conservation tax on partial business transfers. A tax for full business transfers was not necessary to prevent the activation of latent effort and that regulations provide sufficient controls for latent effort.

Therefore, we have two options. Option A, which is status quo under the commission plan, having a 10 percent conservation tax on full and partial business transfers. Option B is to remove the conservation tax on full business transfers. Option 2 is to look at trap increments. The final federal rule had traps transfers could proceed in ten-trap increments. The states had adopted various transfer requirements that differed by management area; so the number of traps that you could move at one time varied by state and area. The federal regulations allowed for fewer traps to be transferred at one time, allowing for more flexibility for a federal permit holder in the trap transfer process.

The two options that were considered is trap increments remain the same or trap transfer increments in ten traps for all areas where trap transferability programs exist. Issue 3 is looking at the dual-permit transfers. A person who has a state and federal permit for the same area may only transfer traps to a dual permit holder from the same state in the commission plan.

The federal plan allows a permit holder to purchase and sell traps that have a dual permit with anyone with a qualified allocation in Area 2, 3 or the Outer Cape Cod Area; so allowing someone from different states to transfer traps, basically. The two options that we have to consider; Option A, which is dual permit holders may only transfer traps to dual permit holders in the same state as it is in the commission plan; or, Option B, to allow dual permit holders to transfer allocation with dual permit holders from other states as was in the final rule.

We went out for public comment in this document. As a reminder, we did not hold public hearings. We only sent out the document out for comment to be received. We received a total of five comments; four from individuals and one from a group from AOLA. For the conservation tax, only one individual favored Option 1, to remain status quo; and three individuals favored to have a removal of the conservation tax on full business transfers.

Option 2, which is the trap transfer increments, all the comments that were received were in favor of moving to a ten-trap transfer increment. For Issue 3, dual permit holders, all the comments that were received on this issue asked for the allowance of the transfer of traps from dual permit holders to be allowed from any state. Questions?

I do want to note that when the document went out for public comment, on Page 6 the examples for Area 2 and 3 were reversed; so that a transfer for Area 2 should have read a transfer must be comprised of a minimum of 50

traps and in units of 10 traps. The upgrading requirement will apply to the transfer – for example, a 20-foot vessel shall only transfer traps to a vessel under 23 feet. The upgrading portion of this example is from Addendum IV, which is way, way, way back; so just to be noted that that upgrading part applied to Area 2 and not to Area 3. It is fixed in the current document that went on the briefing materials.

CHAIRMAN McKIERNAN: Any questions? David.

MR. BORDEN: I actually don't have a question, Mr. Chairman; I'm ready to make a motion when you're ready.

CHAIRMAN McKIERNAN: Are there any questions on the draft addendum? All right, David.

MR. BORDEN: Just a one-minute statement before I do. I just remind everybody that the intent of the regulations is to synchronize the state and federal regulations. I would note that this will simplify and standardize the administration for all the state agencies if we do it correctly**. I would like to make a motion that we approve the addendum with the following options: Under Issue 1, Option B, which would remove the 10 percent conservation tax for full business transfers; under Issue 2, Option B, that traps be transferred in all areas in ten-trap increments; and then under Issue 3, include Option 2, an allowance to state-to-state dual-permit transfers.**

CHAIRMAN McKIERNAN: Is there a second on the motion; Emerson. Any discussion on the motion? Motion to approve the addendum with the following options: Issue 1, Option B; Issue 2, Option B; Issue 3, include Option 2. Motion by Mr. Borden; seconded by Mr. Hasbrouck. All right, are we ready to vote? All in favor of the motion raise your hand; opposed; abstentions; null votes. **It passes unanimously.**

MS. KERNS: The compliance schedule that was outlined that went out for public comment is that approving this document would be effective immediately upon approval of the addendum. It would be expected that when the states did their FMP reviews and state compliance reports for the coming year; then these changes in management measures would be either actively be a proposed change if it is needed to be done; or added if you needed to add it to your transfer rules for those states that have transferability programs. Not all states have them; so it would only be necessary for those states that have transferability rules, and we would include it in the compliance reports.

CHAIRMAN McKIERNAN: So now we need a final vote on approval of the final addendum. **Motion to approve the addendum as written; Bill; and second, Mark Gibson. Do we need a roll call on this one, Toni? All right, no abstentions; no opposition; we'll assume it is unanimous.**

**REPORT ON FISHING FOR ENERGY WORKSHOP**

CHAIRMAN McKIERNAN: The next item is Fishing for Energy Workshop Report.

MS. KERNS: There were several states and staff that attended the Fishing for Energy Workshop. This was a workshop that was put by NFWF through funding via the NOAA Marine Debris Program. I believe I'm doing that correctly. There were members from Maine, New Hampshire, Massachusetts, Rhode Island at the workshop.

One of the items that we discussed was derelict fishing gear and specific was lobster traps and other fish traps. A study was presented that looked at how effective hog rings are for the ghost panels. I'm going to let Bob go quickly through that study and then I'll discuss the recommendation from the working group.

MR. GLENN: Historically, I believe it was in the late seventies, the requirement for a ghost

panel was put into place. The method of attachment was to use a non-stainless steel ferrous hog ring. Based on observations from guys using them in the field, the assumed half-life of a hog ring was somewhere between 60 to 100 days they figured when it would rust out over time; and that would disable the trap and make in ineffective at catching lobsters and fish.

Subsequent to that, in the last several years several agencies, including us at Massachusetts CMF, have done some studies on ghost gear and also some retrievable efforts on ghost gear. Kind of counter to that observation, what we found is that lobster traps, when abandoned on the bottom, that the escape panels as well as the escape vents that are attached with non-stainless hog rings tend to persist for multiple years.

From our study, we saw that they continued to stay attached for well over two years. Then from other subsequent gear retrieval efforts where trap tags were on the traps, they were finding lobster traps in Massachusetts Bay and off the coast of Maine that had trap tags that were six, seven and eight years old where the ghost panel and/or the escape vent had not worn through.

There was a combination of oxidation not occurring on the hog rings as well as bio-filing which kept in place. Based on those results, the National Fish and Wildlife Foundation funded a study by a researcher, Kurt Cousins from William and Mary.

He looked at the degradation rates of hog rings. One of the primary observations, when talking to lobster industry members who actively fished the hog rings, was that our observations that we were seeing from our other studies didn't make sense because they constantly have to replace hog rings.

Their observations were that something is not right here. We have to replace these all the time, every couple of months, and it doesn't make sense that you're seeing them persist. This researcher conducted a study, and he looked at degradation rates of hog rings on ghost panels of traps that are actively fished as well as traps that are just abandoned on the bottom and compared those over time.

In a nutshell, what he found is that over the course of the study; that the pots that were actively fished, that were being brought the surface and allowing that process of oxidation to occur lost their weight as a measure of degradation at a much faster rate than those who were simply abandoned and left on the bottom of the ocean and then checked at the end of the study.

What this does is it kind of brings into question some of the basic tenants of what we have for gear requirements for the lobster plan, and that is the requirement of a ghost panel and escape vents. Those are important aspects but they're certainly not acting as historically and anticipated that after being lost for a couple months; that they would rust out and become inactive. Actually what the evidence suggests is that they continue to persist for quite a long time.

MS. KERNS: So then we got to discussing the study and some of other studies that have been going on. We wanted to see how could we get this discussion going further, include industry; and then if there are solutions or recommendations, how can we move them forward.

It was suggested that we use the Commission's Gear Technology Working Group in conjunction with members of industry to assess the effectiveness of the ghost panel; so review some studies that are out there that are looking at ghost panel use, have industry come forward with some of the other methods that they've been using to attach ghost panels or to provide escapement; and then come back to the Lobster

Board for any recommendations that they determine and discuss.

In addition to fishermen, we thought it would be appropriate to include some of the trap makers as well in this discussion. The Gear Technology Working Group is a technical committee under the Policy Board; so if this is something that interests the Lobster Board, that would need to move through the Policy Board and then be tasked via them.

**MS. PATTERSON: Yes; I would like to recommend that we move this to the Policy Board to task the Gear Technology Working Group to work with industry to assess lobster ghost panel effectiveness.**

CHAIRMAN McKIERNAN: Cherie, that is a motion you're making?

MS. PATTERSON: Yes.

CHAIRMAN McKIERNAN: Is there a second on that motion; Emerson. Any discussion on the motion? David Borden.

MR. BORDEN: I don't have any objections to the motion, but I just wonder whether or not it is comprehensive enough. I just point out that we've got all these fish pot fisheries that are taking place up and down the coast, and we're in the process of rebuilding a lot of these populations. I just use as an example black sea bass where it is not uncommon for somebody to catch a nine- or ten-pound black sea bass in New England waters these days. I would just urge us if we're going to review this, I think we ought to review it in a more comprehensive manner and maybe look at the implications of some of these other pot fisheries and maybe kind of standardize whatever we come up with. Thank you.

MR. HASBROUCK: Mr. Chairman, I've received funding through NFWF and NOAA Marine Debris Program. Over the past several years we've been actively conducting a program with Long Island Sound lobster fishermen to retrieve derelict lobster pots. We've retrieved well over 10,000 abandoned and derelict lobster pots out of Long Island Sound.

We are finding that in many cases the hog rings don't degrade as quickly as anticipated. We've got quite a bit of data on that. The other thing that we find that when the gear is not actively fished and when it is abandoned, it tends to settle into the sediment, especially if it is soft sediments there. We've also found that the pots, where the escape panel is, even if the hog rings have degraded, the panels don't fall off because the pot has settled down into the sediment as well. That is just another issue. I may be able to bring some information to this working group once it gets going.

CHAIRMAN McKIERNAN: Those are great observation and I'm sure the group would benefit from your input. All right, any other discussion? **Seeing none; let's take a vote on this motion. All in favor; opposed; abstentions; nulls. It is unanimous; thank you**.

## UPDATE ON THE LOBSTER TRAP TRANSFER DATABASE

That moves us on to update on the Lobster Trap Transfer Database. I'm going to speak to that.

We've been working monthly with the states and the National Marine Fisheries Service to create through the ACCSP a database that is attempting to house all the trap allocation data for the permit holders on the state and federal level. These are those who have allocations; so it is not all lobster permit holders.

For instance, most of the Maine and New Hampshire fishermen wouldn't be in this database at the current time; but it is those who have trap allocations through the various plan addenda that we've done previously; so it is Area 3, Area 2 and the Outer Cape. Just briefly to describe this; it is very challenging

because as you all know the National Marine Fisheries Service has its own permitting rules and they have a different perspective than the states.

They typically permit vessels and most states are permitting individuals. We're working very hard to try to reconcile where we know it is the same entity, to combine all those data elements into one, which means asking in some cases the states to incorporate in their data those elements that the federal permit might have and vice versa for the federal government to incorporate those items that the state permit would have.

For example, in my state of Massachusetts we took a lot of effort a year ago to add company name to every lobster permit holder who had an allocation; because in most cases that's how the National Marine Fisheries Service had them. Then had them down as company where we had them down as the person. Then it means making sure that the vessel registration or the documentation is spot-on, is exactly right. That is what we've been doing to date.

Now we're going to be coming up with these forms for fishermen to apply for transfers of allocations. We expect to have everything ready by September 1st. That is when fishermen can start applying for these trap allocation transfers. They'll have to have it completed by November 30th for us to work that out. It is going as well as can be expected.

It is hard to have all these jurisdictions working on multiple datasets to try to make it consistent. What it also means is going forward if a fisherman or a vessel owner who wants to make a simple change to their permit might see a little bit of a delay if they also have a state permit with a trap allocation.

The two permitting entities, the people down at the staff level that deal with fishermen on a daily basis, are going to have to a much stronger sense of coordination about people changing their permits. In some cases we've worked very hard to reconcile these records so that if someone has a state and federal permit and they want to go to NMFS and say replace the vessel, well, the state needs to know about that before we in this trap allocation database group will consider to approve that, because there are some negative consequences.

The plan says that if you have a state allocation and a federal allocation, you can't split them into two different businesses; so that's really what we're trying to accomplish there. The ACCSP staff has been very good to work with over these last few months, and all the states are doing their best to get this online in time. That's my report. Next is the Lobster Stock Assessment Update. David Borden.

MR. BORDEN: Mr. Chairman, not a question but in my new capacity, I handle a lot of questions from fishermen. I really would suggest that we follow kind of an intermediate step here. I totally agree with everything you just said, but I think it would be really helpful if the commission, working with NOAA, could write like a general permit letter that would go out to the industry and basically say this is what we are attempting to accomplish and this is what the timelines are. Don't put all the details in it; just let them know when things are going to transpire, because there is a lot of confusion in the industry about when something is going to take place. I think it would help.

CHAIRMAN McKIERNAN: Yes; I'm sure with NOAA we would be doing that. Because this whole process is so involved, I'm sure we'll have some outreach. Mike, did you have a comment.

MR. RUCCIO: I just wanted to say that this is where our staff sometimes makes us look really good. They're already on that. We have the materials kind set and ready to roll out that does quite a bit of I think what you want to see in there, Dave, to try to announce that the

program is now at the point where we can start taking applications, remind people of the timelines, has some answers to the frequently asked questions that we expect about the process.

We've just been waiting to kind of get to the point where we felt that the transfers were something that could be supported in terms of the database, and I think we're just about there. While I have the mike, I just wanted to very quickly thank – there have been a lot of people that have been involved with this from a lot of states, federal agencies ACCSP and a lot of staff have done.

If it wasn't clear from what you heard from the Chair that this is a very large lift, a lot of complexity and moving parts and a lot of people have been working really hard on it. The fact that it has gotten to this point is a testament to the work they've put into it.

CHAIRMAN McKIERNAN: Thanks, Mike; and I just want to clarify if I misspoke. September 30th is the expected deadline for folks to get their applications into the agencies. That gives the agencies October and November, two months, to approve it; so that by the time we are issuing new permits for the calendar year, which we do at the state level, folks will have their new allocation adjusted accordingly.

**UPDATE ON LOBSTER STOCK ASSESSMENT PROGRESS**

CHAIRMAN McKIERNAN: All right, to Toni on the stock assessment.

MS. KERNS: Staff is working to set up or finalize the assessment peer review. It is going to either be in Rhode Island or Massachusetts, somewhere easy commutable to Woods Hole where we have a modeler that is on a survey that week; so we're trying to keep him close to home so he can go back and forth every day in order to prepare for his survey work.

The modelers are doing an amazing job, and I'd like to thank you all for your staff time and their ability to work on the assessment, in particular Bob and Kim and Larry Jacobson and Burton Shank from NOAA Fisheries who have been working extremely hard to model the document. Since we no longer have commission staff working on the assessment, they have stepped up to the plate and done a lot of work and we greatly appreciate it. We will have the peer review to present to the board at the August meeting.

MR. ADLER: At the August meeting; therefore, what are you going to have, the stock assessment?

MS. KERNS: Yes; the stock assessment and peer review report to the board, because the peer review will occur the week of June 8th.

MR. ADLER: Okay, so the thing basically will be finished and presented to us in August?

MS. KERNS: Correct.

CHAIRMAN McKIERNAN: Any other questions? Bob Beal.

EXECUTIVE DIRECTOR BEAL: Mr. Chairman, talking with Pat Campfield earlier today, I think they're leaning toward Newport, Rhode Island, for the peer review; so it is pretty accessible for the Woods Hole folks. It easy to get in and out of Providence.

**POPULATE JONAH CRAB ADVISORY PANEL**

CHAIRMAN McKIERNAN: The next item on the agenda.

MS. KERNS: We have some advisory panel members to consider and approve for the Jonah Crab AP. We apologize; the nomination forms did not translate and make it on to the meeting materials; but they were on your meeting materials for the February meeting, so you did

see them before. This agenda item was put off until this board meeting from February.

We have AP members from New Hampshire, Massachusetts, Rhode Island, New York and Maryland to approve. If states have additional advisory panel members that would like us to consider, please e-mail those nomination forms to Tina or Megan. We can have the board review those at the August meeting, but those folks could still participate on the advisory panel meeting that we would have for the draft FMP.

CHAIRMAN McKIERNAN: Terry Stockwell; do you have a question?

MR. STOCKWELL: Mr. Chairman, with my Maine DMR hat on, we do have a nominee from Maine. However, his application is in a mail snafu because the DMR offices have switched from Hallowell to Augusta. I had hoped to have brought it with me today, but we'll get in the mail to you.

MR. THOMAS O'CONNELL: Just one modification, Mr. John Gurley, since he applied has sold his business and is no longer interested so just remove his name from the motion.

MR. ADLER: So with that adjustment; is that what you're looking for is a motion to approve the ones above except for Mr. Gurley**. Is that what you want is a motion to approve?**

CHAIRMAN McKIERNAN: Yes.

**MR. ADLER: I'll make it.**

CHAIRMAN McKIERNAN: All right, is there a second; second by David Borden. **The motion is to approve Todd Richards Ellis from New Hampshire, Captain Jan Horecky from Massachusetts, William Purtell from Massachusetts, David Spencer from Rhode Island, Brian Thibeault from Rhode Island, Chris Scola from New York, and Earl Gwin from Maryland to the Jonah Crab Advisory Panel**. Motion made by Mr. Adler and seconded by Mr. Borden**. Any objections? Hearing none; we will consider it unanimous.**

**OTHER BUSINESS**

CHAIRMAN McKIERNAN: Other business. Mark Gibson.

MR. GIBSON: I just wanted to return to the stock assessment. We're going to get the report and the peer review. Even if there is not likely to be much good news about Southern New England, what is the expectation of the board's likely action in response to that? Are we going to be thinking about taking some kind of response to that at the summer meeting or take longer to digest it? How do you see that playing out?

CHAIRMAN McKIERNAN: That's the $64,000 question. It will be presented to us in August. I assume we'll probably have to come up with new possible thresholds. Bob, what is the thinking of the stock assessment folks? What can we expect?

MR. GLENN: To use the politically correct answer to that, Dan, is that prior to the peer review I think the committee would be happier if I didn't offer those suggestions.

CHAIRMAN McKIERNAN: We'll see, Mark. Any other business? David.

MR. BORDEN: Mr. Chairman, I'll try to keep this brief and I note that we're ahead of schedule. I just wanted to talk a little bit about the last New England Council Meeting and the Closed Area 2 discussions. I think everyone will recall we raised I think two meetings ago. The commission sent a letter to the council basically requesting that the council keep Closed Area 2 closed to mobile bottom-tending gear during the period of time when the lobsters are in the area.

I think as everyone will recall, a number of industry representatives had come forward and basically said that there were large concentrations of egg-bearing females in the area. In fact, the board asked the technical committee to review this issue. Bob Glenn as the chairman of the PDT responded; and the response basically was that up to 80 percent of the lobsters in the area seasonally are egg-bearing females.

Actually and more importantly from my perspective – and Bob can speak to this himself better than I can; but the scientific understanding in the Gulf of Maine between the inshore fishery population and the Georges Bank population is really evolving in this stock assessment. I think once we actually get the stock assessment, what we're going to see is that there is a definite connection between these two parts.

The significance of this is the council has this habitat amendment, I think as everyone knows, and one of the options in the habitat amendment is to open Closed Area 2. If that happens, conceivably we could have a large number of mobile gear boats go in there right at the height of the season when egg-bearing lobsters are in the area.

This is not a trivial matter for the commission. The commission has the responsibility under the Atlantic Coastal Act, working with NOAA, to manage the lobster resource; and the council has their own responsibilities which are to manage habitat with NOAA; but they're different responsibilities. The reason that I'm raising this is at the last meeting Dr. Pierce made a motion, which got tabled until June –

CHAIRMAN McKIERNAN: Do you mean at the last council meeting or –

MR. BORDEN: At the last council meeting made a motion to prohibit mobile gear in any portion of Closed Area 2 north of 41 degrees 30 minutes during the period of June 15th through October 31st. As I said, that motion got tabled until the June meeting. What we have here is that there are a lot of moving parts that are going on simultaneously; and I'm a little bit concerned that the commission is going to lose its opportunity to comment on this issue.

As I said, we submitted a letter to the council. Unfortunately, the letter didn't include specific dates on when we thought that the mobile gear should stay out of that. If as Bob Glenn stated in his memo to the board up to 35 percent of the entire egg-bearing female population from the Gulf of Maine and Georges Bank is in Closed Area 2 in the summer months, I think the last thing anyone around this table wants to see is a group of mobile gear boats go in there and work during that time period.

The inshore fisheries that are dependent upon this egg production basically employ 6,000 fishermen and are worth $400 million. This is a big issue I think for the board. What I'd like to suggest here is that we ask the Board Chair to work with the executive director and the commission chairman and send another letter to the council specifically requesting that the council keep any portion of Closed Area 2 north of 41 degrees 30 minutes closed during the time period of June 15th to October 31st. I would be happy to make that as a motion. That is one suggestion. I've got a second suggestion, but I think it will be good to take these up separately.

CHAIRMAN McKIERNAN: At this point we're just discussing; you haven't made a formal motion yet? You're just looking for feedback?

MR. BORDEN: Yes; I'd like to hear a reaction from the board members. If people are supportive, I'll make a motion.

CHAIRMAN McKIERNAN: Okay, any reaction from the board? Bill Adler.

MR. ADLER: First of all, I thought the lobstermen and the dragger men came to an agreement up in this area of Closed Area 2 with regard to the egger situation and the gear conflicts; and they came up with an approval of when they would be there and when they're weren't. I remember while NOAA was able to control the dragger solution; they couldn't control the lobster; so we here put something forward make the lobster guys conform to the agreement.

Okay; done deal. Now, what I'm listening to is that whether the feds haven't opened it up under those conditions or not; then I remember Dave saying that the scallopers weren't included in the agreement. I think what we're looking for is if they open Closed Area 2 where north of whatever; that the scallopers and the draggers must comply with those dates where they stay out. Dave can elaborate, but I believe this is what the idea is. If I'm not correct, Dave, let me know.

MR. BORDEN: In terms of the otter trawl's ground fishermen is a better way to characterize it; the ground fishermen and the lobster industry negotiated an agreement and put that in place. The agreement essentially prohibits mobile gear in the area from June 15th until October 31st. That agreement in fact was updated about a month ago.

This morning I sent a copy of the updated agreement to Toni. She has it and she can distribute it to everybody. Bill is correct; this whole issue basically comes down to the scallop industry fishing in the area. We've had ongoing discussions between the Atlantic Offshore Lobster Association and the scallop industry.

We've got a framework for an agreement, but the scallop industry essentially – and I'm not here speaking on their behalf; but they refused to sign the agreement because they need guaranteed access into the area in the spring when the eels are going up. In order to do that, they have to get the council to approved closed-area access days earlier.

As Terry can speak to better than I can, the council has already directed the Scallop Committee to do that. I mean the pieces are all kind of moving in the right direction, but I'm just a little concerned and I think we have to be very specific on what we want going – as the Lobster Board going into this council meeting. That's the reason I'm suggesting we send another letter.

MR. STOCKWELL: Thank you, David, for bringing this to the board. To recap a very long day and a half meeting a couple of weeks ago, all action on Georges Bank was suspended and deferred until the June meeting. We didn't get there. I mean around this table all the state directors have been supportive of expanding the otter trawl agreement with the scallopers.

In fact, Dr. Pierce made a motion to in fact to remand that the scallopers develop an agreement with the lobster fishery or the council is going to do it for them. The one kind of yellow blinking light I have is that the public comment period for the Habitat Omnibus is beyond us. We've had over 200 public hearings, 170,000 public comments. We can vote to send a letter from the board, but I think it is going to resonate with all the commissioners sitting around the table that serve two functions. I'm just not sure what attention the letter is going to get.

MS. KERNS: David, the updated agreement, does it have the same dates and lat/long information that Addendum XX had. It is just new signatures?

MR. BORDEN: It is all the same. The only thing that really changed; there was some confusing language about implementation protocols and so forth; and that all got taken out of it.

MS. KERNS: As David referenced, we do have Addendum XX which looks at the commission's side of this agreement, saying when we would pull lobster traps from the specific area within Closed Area 2. At the council meeting, commission staff that are at the meeting, we can bring up the regulations that we have listed as current lobster rules and regulations as part of the discussion through that motion and anywhere else that it would need to be brought up. I don't know if that is helpful enough. I'm trying to find a balance here between the public comment period being closed and rules and regulations that we already have in place that changes would impact our plan.

MR. BORDEN: Just to follow up both on Terry's point and Toni's point, the public comment period is closed, but I mean sending the council a letter on this issue isn't going to hurt. In other words, it is at least we take the position of what we want, because we were a little vague of what we want.

We basically said close the area during the time period when the lobsters are there. I would note that when Bob Glenn and PDT gave their recommendation, their recommendation was don't open the area. I think it would behoove us all to have a clear record of what we would prefer. Terry is right, the public comment period is over. The council will read the letter and they can act accordingly.

CHAIRMAN McKIERNAN: Ritchie White, do you have a comment?

MR. G. RITCHIE WHITE: I support Dave's motion. I wonder if the process is that the Service has to approve the council's recommendation; should this letter not go to the Service?

MR. BORDEN: To Ritchie's point, I would suggest if we're going to send another letter, it would go both to John Bullard and to Terry.

MR. RUCCIO: I think you can certainly do as you will with the letter. I don't want to dissuade you from doing that. You can certainly cc John, but at this point the council has yet to take final action; so the Service hasn't formally entered into that period where we're in review of their recommendations.

Although it might have merit in terms of letting us know your mind at this point, for the eventuality of when we review it, it is still very much in the council's forum. Terry, correct me if I'm misspeaking or mischaracterizing this, but I think addressing it probably to the council at this point is a better bet.

MR. STOCKWELL: I certainly would support moving this letter along. To Dave's point, it isn't going to hurt; but John Bullard is a member of the council so he is going get receipt of this letter wherever it is addressed. One suggestion I would have is that the letter moves ahead in time for the June 1st Habitat Committee meeting, which was just scheduled today; so the Habitat Committee will have it in their hands by then, and that might help push the development of an agreement between the scallopers and lobstermen before the council meets at the latter part of June.

CHAIRMAN McKIERNAN: Okay, so I'm hearing some support around the table. Can we take 60 seconds and put the motion up on the board, David, that you can read.

**MR. BORDEN: Yes; I'll read it to say move to request the commission to send a letter to the council and reiterate our concerns in regard to the lobster resource and request the council to keep Closed Area 2 closed from June 15th to October 31st north of 41 degrees 30 minutes.**

CHAIRMAN McKIERNAN: All right, give us a few seconds and we'll try to get that up on the board. Are there any comments or questions while we put this together? The first version I heard of the motion didn't sound like the

second version so we should take a look at it up on the board. Bill Adler, did you have a question or a comment?

MR. ADLER: Just a comment. Dave may have put it in but closed to all mobile-tending gear.

CHAIRMAN McKIERNAN: Well, let's take a look at what he has got and maybe we can refine it. All right, we have the motion on the board. David, do you want to read it and make sure it is yours?

MR. BORDEN: Yes; move to request the Policy Board to send a letter to the New England Fishery Management Council reiterating our concerns for lobster and request a prohibition on all mobile gear in Closed Area 2 from June 15th to October 31st north of 41 degrees 30 minutes.

CHAIRMAN McKIERNAN: David, should that be phrased "bottom-tending mobile gear"?

MR. BORDEN: Yes, please.

CHAIRMAN McKIERNAN: Okay, we have the motion. Do we have a second on the motion; Bill Adler has seconded the motion. Discussion? David Simpson.

MR. DAVID SIMPSON: I understand this and we do have a place here because the commission has got the lead on lobster; there is, what, $50 million worth of scallops in that area; is that the right number? People should be aware of that. Does it require such an extreme measure or recommendation from this group or do we let those fisheries try to work out some kind of agreement so that the broader fishery gains some value here?

MR. THOMAS FOTE: Dave, I look at this more as a placeholder; that we're putting our concerns in there. Our responsibility as a commission is to protect lobster and the lobster habitat. We're just letting the council know that we have serious concerns over this and it may be worked out. Sometimes the New England Council forgets about our recommendations or understanding especially when it came to winter flounder; so that is why I think it is a good place to put a placeholder.

MR. BORDEN: Mr. Chairman, I was just going to quickly follow up on David's point because I think he made a good point. If this motion passed and the council agreed to implement it and NOAA agreed to implement it, then what would happen is the mobile gear fleet would have 7-1/2 months in that area to prosecute their fisheries. Now, there are other constraints that would come in like groundfish spawning periods and things like that, but none of us have any control over that. That is not something within the purview of the Lobster Board. Thank you.

CHAIRMAN McKIERNAN: All right, any other comments on the motion? Do we need to caucus? No, need to caucus; **let's vote on the motion. All in favor of the motion; all opposed to the motion; abstentions, 4; null votes. The motion passes seven to zero to four to zero; seven in favor, none opposed, four abstentions, zero null votes.** All right, that's it for other business. David.

MR. BORDEN: I've got actually one more motion I would like to make; but before do it, with your indulgence, I would like to ask Mike or Terry just very quickly explain the process the council will go through in terms of they're going to meet in June.

Then my understanding is the staff will take maybe six or eight weeks to finalize the amendment. Then that amendment will go to the National Marine Fisheries Service, and that will start the internal review process. As part of that process, as I understand it – and I'll ask Mike if he could explain whether or not there is a public comment period and when that might take place.

CHAIRMAN McKIERNAN: You're talking about public comment on the council's action?

MR. BORDEN: Final action and I think –

CHAIRMAN McKIERNAN: Mike, can you speak to that?

MR. RUCCIO: Sure, happy to. This is a formal amendment from the council; so amendments under Magnuson have kind of two prongs that end up occurring. One is the agency is, as it is outlined in Magnuson, required to make a decision on the approvability of the measures. It often gets a little bit confusing because there is an approvability set of documents that goes forward in the Federal Register. Then there is rulemaking, which would be a proposed and final rule to actually implement the measures.

These kind of get kicked off at the same time. It is a long-winded way of saying there are public opportunities for comment once the agency has received and kind of accepted the council's recommendations and then put that forward; and those will be, one, on the overall approvability of the amendment in total or in part, because we can either approve, partially approve or partially disapprove any discrete component within the amendment.

Then the actual measures that would implement the amendment; so, for example, if there is a recommendation to change how Closed Area 2 is handled, that would be a specific measure that would be proposed by the agency or an example of the measure that would be proposed by the agency that could be commented on. There is both a broad and a discrete opportunity for comment on the rulemaking that the agency would conduct.

MR. BORDEN: Okay, one of my concerns here – and I'm not trying to be Nervous Nellie – is we've got a meeting this week and the council is going to meet in June, and they're going to take action. As Terry can tell you and Mike can tell you, their action is going to focus almost exclusively on the habitat requirements of the Magnuson Act and the groundfish protection objectives of the habitat amendment.

I'll just give you a scenario. They make their decision in June and then we don't meet until August; so that is basically two months. One of the alternatives that we have is similar to what we did for the fixed-gear sector. We could begin an addendum that essentially would prohibit mobile gear fishing in this area that we just described in the prior amendment.

And then as we do with all our fishery management plans forward a recommendation to NOAA right on the same timeline that the council recommendation was going forward. I actually crafted a motion on this that the staff has, if they put it up. **It is to move to direct the staff to initiate the process of developing an addendum to the Lobster FMP to prohibit all mobile gear in Closed Area 2 north of 41 degrees 30 minutes during June 15th to October 31st should the area reopen.** If I get a second, I'll just discuss it for one minute and then we can dispense with it, hopefully.

CHAIRMAN McKIERNAN: Second from Bill Adler.

MR. BORDEN: Okay, I think the advantage of passing this motion is I do not anticipate that the ASMFC staff would do any work on this other than simply consolidate material. We have two or three things that are all going to take place in the next month. The council is going to finalize their position; and if they adhere to our request, then there is no need to do an amendment.

The second point is, as Bob Glenn stated, the stock assessment is going to be finalized and it is going to be peer reviewed. Part of that stock assessment is going to get into a very detailed review of this issue of connectivity between the inshore and the offshore stock; so you'll have

the most up-to-date science that's available. The third thing that is going to take place is New Hampshire Fish and Wildlife has initiated a sampling program for this area to document the relative abundance of both eggers and v-notched lobsters in this general area. There is going to be a tremendous amount of very current scientific information that has come forward.

By passing this motion, it would be my intent to not preempt the council. The council is going to make their decision based on habitat and groundfish; but if they choose to open the area and not adhere to the first request, then I think it is incumbent upon us to do an addendum similar to what we did for the pot fishery and basically eventually forward a recommendation to NMFS to close the area.

Now, that would put NMFS in the position where they have two different recommendations from two different bodies; but that is totally acceptable from my view because the council has very different responsibilities than we do. We have the responsibility for managing the lobster resource, and we should take that very seriously. I hope this motion passes. Thank you.

MR. STOCKWELL: I'm not as pessimistic as Dave is that the council isn't going to address the Closed Area 2 issues. I'm going to be voting against this because my sense is that this is way premature. Should the council at the June meeting fail to respond to the comments from the state directors, the commission and a number of the other public comments that we've received over the recent months, then this would be a very appropriate action. We've got new staff here, a stock assessment that is about to be unfolded, and I think moving ahead and directing staff to only expand their workload by a little bit is a little bit too early.

MR. WHITE: I guess I don't understand on what authority we could do this. How can we keep a directed fishery that we don't manage in federal waters out of an area? I guess I don't understand our authority to do that.

MR. BORDEN: It is a good question, Ritchie. I actually agonized over that myself. It is almost identical to the addendum we adopted for the fixed-gear fishery. The commission basically doesn't have an enforcement presence 180 miles offshore. If this were to pass, the significance of it would be that the commission would have finalized a position with a vote, adopt an addendum; and then as is part of every addendum, we have a section in there that speaks to the federal actions that are required.

Under that section we would ask NOAA to promulgate appropriate rules in federal waters to support that; and they would do that over the duration. That is the way we have handled all of these other rules. This would be an Atlantic Coastal Act contingency that clearly lays out our responsibilities to put together appropriate management actions and clearly gives NOAA the authority to promulgate rules in federal waters. The specific language is "in support of ASMFC actions".

MR. GIBSON: Mr. Chairman, I hate to do this to my esteemed colleague, but I find myself agreeing with the chair of the council that we seem to be getting out ahead of ourselves on this. I have some serious questions about jurisdictional matters. I would like to hear from general counsel and folks like that before I embarked on – this seems to be solely an action that would be configured solely in federal waters.

I don't know that we've ever done that before with lobster. Maybe we have, but we always had, it seems to me, state waters' connections. I think we're getting way out ahead of ourselves and not respecting the process that they need

to go through particularly at the next Habitat Committee meeting. I don't think I can support this at this time.

CHAIRMAN McKIERNAN: David, given some of the comments that you've heard and some of the jurisdictional questions, would you like to withdraw the motion until the August meeting or table it and talk about it in August?

MR. BORDEN: My suggestion, Mr. Chairman, is to table it until the August meeting.

CHAIRMAN McKIERNAN: All right, very good. Terry, did you want to speak?

**MR. STOCKWELL: No; I'd make the motion to table the motion until the August meeting.**

CHAIRMAN McKIERNAN: Okay, second on the motion. Dennis Abbott seconds the motion. Any need to discuss? All right, all in favor. **It sounds like it is unanimous, 12 votes.**

**ADJOURNMENT**

CHAIRMAN McKIERNAN: Okay, any other business? All right, the meeting is adjourned.

(Whereupon, the meeting was adjourned at 4:55 o'clock p.m., May 4, 2015.)

# Atlantic States Marine Fisheries Commission

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# MEMORANDUM

July 27, 2015

**To: American Lobster Management Board**

**From: Megan Ware, FMP Coordinator**

**RE: Public Comment on the Draft Jonah Crab Fishery Management Plan**

The following pages represent a summary of all public comment received by ASMFC by July 24, 2015 at 5:00 p.m. (closing deadline) on the Draft Jonah Crab Fishery Management Plan.

A total of 12 written comments were received during the public comment period. Four of those comments were from the following groups and organizations: Atlantic Offshore Lobstermen's Association, Massachusetts Lobstermen's Association, New England Fishery Management Council, and the National Marine Fisheries Service. Individual written comments were primarily submitted by commercial fishermen and their locations ranged from Maine to Virginia. A summary of the written comment is provided (pages 2-5) and individual comment letters follow this memo. In the headings of the summary tables, the following abbreviations are used:

- "I" stands for individuals in favor
- "G" stands for groups in favor.

Five states within the management unit held a public hearing: Maine, New Hampshire, Massachusetts, Rhode Island, and Maryland. In total, approximately 60 individuals attended the public hearings. A brief summary of the comments received at the public hearings is provided (pages 6-7), followed by detailed summaries for each hearing (pages 7-18). Summaries of the public hearings were also included in the Briefing materials and have not changed.

**Written Comment Summary**

FISHERY DEPENDENT DATA COLLECTION (*Section 3.4.1*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | Harvester Reporting | 1 | 0 | 1 |
| **2** | Harvester and Dealer Reporting | 0 | 1 | 1 |
| **3** | Harvester and Dealer Reporting with Port and Sea Sampling | 2 | 3 | 5 |

All of those who commented on fishery dependent data collection were in favor of a mandatory reporting of landings. Two groups encouraged that all vessels landing Jonah crab from Federal waters be required to complete a VTR. While three letters supported 100% harvester reporting, one group felt the Jonah Crab FMP should mirror reporting requirements in the Lobster plan (10% harvester, 100% dealer). Those who supported port and sea sampling highlighted the fact that Jonah crab is a data poor stock and more information is needed to understand its status. One group highlighted the importance of at-sea monitoring to better understand bycatch in the fishery while another individual stated that data collection should distinguish between crabs caught incidentally and those caught in a directed fishery.

PERMITS (*Section 4.1, Issue 1*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | Status Quo | 0 | 1 | 1 |
| **2** | Discretionary State Permitting with recommendation to NOAA | 0 | 1 | 1 |
| **3** | New Jonah crab permit | 0 | 0 | 0 |
| **4** | New Jonah crab permit with trap design | 0 | 0 | 0 |
| **5** | Lobster permit or incidental permit required | 3 | 4 | 7 |

The majority of written letters were in favor of requiring a lobster permit, or incidental permit, to land Jonah crab. Justification for this Option included the inherent connection between the lobster and Jonah crab fishery and the need to prevent the proliferation of traps. One group highlighted that all options except Option 5 limit the directed Jonah crab fishery to trap gear and that all those who currently fish for Jonah crab should be allowed to do so. Another individual supported Option 5 but felt comfortable issuing a "Jonah Crab Only" permit to those vessels that can prove a history of landings with no lobster permit. Another group supported any option that preserves the existing levels of participation in the Jonah crab fishery in order to protect the SNE lobster stock.

MINIMUM SIZE (*Section 4.1, Issue 2*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No min size | 1 | 0 | 1 |
| **2** | 4” min size | 1 | 0 | 1 |
| **3** | 4.25” min size | 1 | 0 | 1 |
| **4** | 4.5” min size | 1 | 0 | 1 |
| **5** | 4.75” min size | 0 | 0 | 0 |
| **6** | 5” min size | 0 | 2 | 2 |
| **7** | 5.25” min size | 1 | 0 | 1 |
| **8** | 5.5” min size | 0 | 0 | 0 |

Comments from individual fishermen generally supported a smaller minimum size than those received from organizations. Two groups supported a 5” minimum size since this is the current market standard and it would protect most females. One individual supported either a 4” or 4.25” minimum size since his catch from Area 2 is generally smaller than the Jonah crab caught offshore. One individual did not believe there should be a minimum size sighting negative repercussions to the population, including genetic shifts to smaller spawning females and increased discards. One individual supported a 5.25” minimum size with a 0.25” tolerance so that no violations would be issued for crabs larger than 5”.

COMMERCIAL MINIMUM SIZE TOLERANCE (*Section 4.1, Issue 3)*

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No tolerance | 0 | 2 | 2 |
| **2** | 5% tolerance | 0 | 1 | 1 |
| **3** | 10% tolerance | 0 | 0 | 0 |

One group was against a tolerance because they did not believe it could be properly enforced. Another group was against a tolerance but did admit that, for landings greater than 10,000 pounds, this may not be practical. One group supported a 5% tolerance because they felt this provided a way to be sustainably minded in a high volume fishery; however, implementation of the tolerance was a concern.

CRAB PART RETENTION (*Section 4.1, Issue 4*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | Crab parts may be retained | 1 | 0 | 1 |
| **2** | Whole crabs only | 2 | 3 | 5 |

The majority of written comments favored a whole crab fishery, stating that claw removal is harmful to crabs and data on post-release survivability is lacking. One individual was in favor of a parts fishery and highlighted its economic value in the mid-Atlantic region. He also noted the conservation benefit of putting a species back in the water so that it can further reproduce. One group suggested creating a conservation equivalency to allow this small but historic claw fishery

in the mid-Atlantic to continue. Another group did not support either option but felt that crab part retention should be limited to permit holders who can demonstrate a significant history.

PROHIBITION ON RETENTION OF EGG-BEARING FEMALES (*Section 4.1, Issue 5*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No prohibition | 2 | 0 | 2 |
| **2** | Prohibition on retention of egg-bearing females | 1 | 3 | 4 |
| **3** | No females, 1% tolerance | 1 | 0 | 1 |

All written comments from groups favored a prohibition on the retention of egg-bearing females to ensure the long-term sustainability of the resource. Several commented that, if the minimum size is set at 5", most females will be protected and this management measure may not be necessary. One individual wrote against a prohibition on the retention of egg-bearing females, stating that this management measure causes skewed sex ratios and exacerbates population fluctuations.

INCIDENTAL BYCATCH LIMIT FOR NON-TRAP GEAR (*Section 4.1, Issue 6*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No possession limit | 0 | 0 | 0 |
| **2** | 200 lbs/day, 500 lbs/trip | 3 | 3 | 6 |

Of those letters which commented on a bycatch limit, all were in favor of Option 2. Most comments were directed at the implementation of the limit. One group suggested the limit be a volumetric standard rather than a poundage since most vessels do not have scales. Another group suggested a count limit.

RECREATIONAL POSSESSION LIMITS (*Section 4.2, Issue 1*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No possession limit | 1 | 0 | 1 |
| **2** | 50 whole crabs; 100 claws per person | 2 | 2 | 4 |

The majority of those who commented on recreational measures were in favor of a recreational bycatch limit. Letters from two groups suggested the limit be strictly 50 whole crabs and not include claws. One individual did not support a possession limit stating that the recreational fishery was not large enough to require management.

RECREATIONAL PROHIBITION ON RETENTION OF EGG-BEARING FEMALES (*Section 4.2, Issue 2)*

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | No prohibition | 1 | 0 | 1 |
| **2** | Prohibition on egg-bearing females | 1 | 1 | 2 |
| **3** | Prohibition on females, 1% tolerance | 1 | 0 | 1 |

Responses ranged on the retention of egg-bearing females in the recreational fishery. One group supported a prohibition on the retention of egg-bearing females so that the restrictions implemented in the commercial fishery mirror those in the recreational fishery. Another individual did not believe the recreational sector was large enough to warrant management.

DE MINIMIS CRITERIA (*Section 4.3.3*)

| Option | Description | I | G | Total |
|---|---|---|---|---|
| **1** | Commercial and recreational landings separate | 0 | 0 | 0 |
| **2** | Combined commercial and recreational landings | 0 | 2 | 2 |

Only two letters commented on *de minimis* status and both were in favor of combining the commercial and recreational landings. They also both supported a 1% threshold such that a state with landings below 170,000 pounds would qualify for *de minimis* status.

GENERAL COMMENTS

- There should be a minimum size in the recreational fishery to match regulations in the commercial fishery.
- Research on stock status and Jonah crab life cycle is needed before more management measures are put in place.
- The Jonah Crab FMP should include: 1) MPAs to protect spawning habitat; 2) a total allowable catch ideally at 5% of estimated total biomass; and 3) rights based management to improve fishery efficiency.
- There should be Area plans in the fishery to account for the regional differences in the stock.
- The descriptive language of the difference between a Jonah crab and rock crab is underwhelming and the opposite of what fishermen use in Casco Bay.
- The Jonah crab fishery is primarily in federal waters and should be jointly managed with NEFMC.
- The Board should recognize the baited drop trap in the Jonah Crab FMP and incidental trap provisions should be made for “any trap capable of catching Jonah crab”.
- Language should be added to the FMP which highlights the population fluctuations shown in trawl surveys.
- The Jonah Crab FMP should stipulate an escape vent design to ensure undersized crabs are not caught. Currently, the specifications outlined in the lobster FMP do not minimize the retention of undersized crabs.

## Public Hearing Summary

*Section 3.4.1 Fishery Dependent Data Collection*
Comments on data collection in the commercial fishery did not show a clear consensus. Individuals from Maryland stated that harvester and dealer reporting aligns with their current practices but also noted that increased biological sampling is needed to characterize the fishery. At the New Hampshire public hearing, some individuals supported port and sea sampling while others preferred harvester reporting since most outlets for Jonah crab are non-dealer related.

*Section 4.1 Permits*
Preference for permitting in the Jonah crab fishery was primarily for maintaining the status quo or requiring a lobster or incidental permit. Maryland fishermen supported upholding the status quo until further studies on the resource are conducted. New Hampshire and Rhode Island attendees unanimously supported tying the fishery to the lobster permit to prevent the proliferation of traps. Several fishermen noted that a specialized Jonah crab trap would likely still catch lobster.

*Section 4.1 Minimum Size*
Commercial minimum size was often commented as the most important issue in the Draft FMP. At the Massachusetts public hearings, all attendees were in favor of a 5" minimum size to protect the female population. New Hampshire fishermen generally wanted a higher minimum size (5.5"). Contrastingly, Rhode Island fishermen either wanted a 4" minimum size or no minimum size. They noted that their Jonah crab catch is smaller in size and a 5" minimum size would shut them out of the fishery. Maryland fishermen were generally against a minimum size since they are a claw fishery.

*Section 4.1 Minimum Size Tolerance*
The majority of public hearing attendees favored a 5% tolerance in order to accommodate the large volume of the fishery. Most comments were directed at how the tolerance would be implemented and suggested that a volumetric tolerance or count would be easier to implement.

*Section 4.1 Crab Part Retention*
Besides Maryland, all states were in agreement that the Jonah crab fishery should be strictly whole crab. Maryland fishermen supported a parts fishery and pointed to their continued catch over the last 30 years as proof of its sustainability. Some attendees suggested a conservation equivalency in order to maintain the historic claw fishery.

*Section 4.1 Retention of Egg-Bearing Females*
Overwhelmingly, public hearing attendees supported a prohibition on egg-bearing females. In Massachusetts, concern was stated over a zero tolerance on the retention of egg-bearing females due to the high volume of the fishery. Others stated that this measure is not needed since, if the minimum size is chosen correctly, females will be protected.

*Section 4.1 Incidental Bycatch Limit*
All public hearing attendees supported a bycatch limit for non-trap gear but suggested a count or bushel limit instead of a weight. Several fishermen asked for clarity on the definition of a 'trip' and questions were raised as to how black seabass pots should be characterized.

*Section 4.2 Recreational Fishery Management Measures*
In the recreational sector, attendees were unanimous in their support of a possession limit and a prohibition on egg-bearing females. Several attendees commented that there should be a recreational minimum size and that, if claw parts are not allowed in the commercial fishery, they should not be allowed in the recreational fishery.

*Section 4.3.3 De Minimis Criteria*
There was no clear consensus on *de minimis* criteria but fishermen in Maryland wondered how claw landings would translate into state landings.

## Jonah Crab Draft FMP Public Hearing Summaries

***Portland, ME***
***July 6, 2015***
***6 Attendees***

ASMFC Staff: Steve Train (Commissioner), Toni Kerns (staff), Megan Ware (staff)

Attendees: Pam Thames (NOAA/NMFS), Jon Cornish (DMR), Kathleen Reardon (DMR)

Attendees did not have any comments on the issues presented in the Draft FMP.

***Portsmouth, NH***
***July 7, 2015***
***12 Attendees***

ASFMC: Dennis Abbott (ASMFC Commissioner Proxy), Douglas Grout (ASMFC Commissioner), Megan Ware (staff)

Attendees: Erik Anderson (NHCFA), Bobby Mudd, Jim Titone, Todd Ellis (Shafmaster), Joshua Carloni (NH Fish and Game), Heidi Henninger (AOLA), Josiah Beringer, John Makourky (NHCFA), Lydia Blume (ME House)

Issue 1: Fishery Dependent Data Collection

Meeting attendees stated a preference for harvester reporting (Option 1) and harvester and dealer reporting along with sea/port sampling (Option 3). Two individuals were in favor of Option 1 and AOLA supported a modified Option 3. Comments included:

- I am not in favor of Option 2 because NH doesn't have a large commercial outlet for Jonah crab. Unlike MA or RI, most NH outlets for Jonah crab are non-dealer related,

such as private sales or restaurants. Option 2 means that you can't sell to anyone that doesn't have a federal dealer permit and that would be problematic for the state.
- AOLA most closely aligns with Option 3. We would like the Commission to recommend to NOAA that VTR be required for all federal landings. At a minimum, we recommend that states maintain their current level of reporting. **A complete comment letter was submitted by AOLA.*

Issue 2: Commercial Permits

All meeting participants were in favor of tying the Jonah crab fishery to the lobster fishery by requiring a lobster permit or incidental permit (Option 5). Comments included:

- Option 5 is best because most effort is directed through the lobster fishery.
- Until recently, Jonah crab was considered bycatch and no one was fishing for it directly. Therefore, Option 5 is best. I don't think that the incidental permit holders should be allowed to retain lobster.
- I agree with Option 5 but there needs to be particular attention to the details of the incidental permit. Right now it seems there is both limited access (through the lobster permit) and open access (through the incidental permit). A note on Option 4, a specialized Jonah crab trap will still have some effect on the lobster fishery so it may be hard to truly minimize impact.
- An owner/operator license is important to me.

Issue 3: Commercial Minimum Size

The majority of participants stated support for a 5" minimum size (Option 6) and one individual supported a 5.5" minimum size (Option 8). Comments included:

- I am for Option 8 because that would preclude the majority of females. Jonah crab caught from the offshore fishery are almost entirely males and are greater than a 5" gauge. A marketable size is 6" and anything smaller than that will affect marketability. Really the minimum size should be 6".
- Lobster trap vents are large so small Jonah crabs get out of the trap anyway.
- AOLA favors Option 6 because it will protect most of the females and it aligns with historical landings. We believe that minimum size is the most critical part of the plan and the Commission must be risk averse when setting the minimum size. Option 6 is risk averse and conservation minded.

Issue 4: Commercial Minimum Size Tolerance

Two meeting participants stated a preference for a 5% tolerance (Option 2) while one individual did not believe there should be a tolerance (Option 1) since there is no tolerance in the lobster fishery. Comments included:

- The volume in this fishery is large so there should be a 5% tolerance.
- Why should there be a tolerance in the Jonah crab fishery if there isn't one in the lobster fishery?
- AOLA supports a 5% tolerance because it balances the need to be sustainably minded and the fact that this is a large volume fishery. If the minimum size is selected correctly

and the fishery is linked to lobster traps, the number of small crabs should be low. Crabs can also be hard to measure.

Issue 5: Commercial Parts Fishery

All meeting participants favored a whole crab fishery due to potential damages to the resource. Comments included:

- A claw fishery damages the resource.
- There has never been a parts fishery in NH and that should not start.
- AOLA is for Option 2 but we recognize that there is a crab fishery in MD. We suggest a conservation equivalency to keep that fishery and cap it at its current size.

Issue 6: Commercial Retention of Egg Bearing Females

All participants favored a prohibition on the retention of egg-bearing females (Option 2). Comments included:

- There is no need to keep pregnant females since this keeps the fishery healthy. The females are too small for market anyway.
- AOLA is opposed to an egg-bearing female fishery but we think that, if the minimum size is chosen correctly, this should protect the females. Therefore, this issue serves to complicate the plan. For now we think that we should set the minimum size at 5" and then set up a monitoring program to see the number of egg-bearing females caught. In 1-2 years we can evaluate the need of this management measure.

Issue 7: Incidental Bycatch Limit

Participants supported a 200lb/day and a 500lb/trip incidental bycatch limit for non-trap gear (Option 2). Comments included:

- I support Option 2 because, especially with the poor state of the groundfish fishery, I don't want there to be an option for mobile gear to direct fishing effort on Jonah crab. If there is no incidental bycatch limit this may happen and have severe effects on the resource. Mobile gear should not be allowed to target the species.
- I support Option 2 but the definition of a 'day' and a 'trip' should be clearly defined in the plan.

Issue 8: Recreational Possession Limit

Meeting attendees were in favor of a 50 whole crab limit in the recreational fishery (Option 2) but highlighted that they did not want a 100 claw limit. Comments included:

- If the harvest of crab claws is not allowed in the commercial sector it should not be allowed in the recreational sector and the possession should be changed to just 50 whole crabs.
- A possession limit is necessary to keep the recreational sector recreational.
- Option 2 should read as a possession limit per recreational license, not per person.
- This issue does not address the different harvest methods in the recreational fishery such as hand, scuba, and trap.
- AOLA is in favor of Option 2 for whole crabs only. We also think a minimum size should be implemented in the recreational fishery that mirrors the commercial fishery.

Issue 9: Recreational Retention of Egg-Bearing Females

All meeting participants favored the prohibition of egg-bearing females (Option 2). Comments included:

- Everyone should conserve.

Issue 10: De Minimis criteria

Two participants expressed an interest in a combined commercial and recreational fishery with a 1% criteria (Option 2a) while all others supported a separate commercial and recreational fishery with a 3% criteria (Option 1a). Comments included:

- AOLA wants to ensure a minimum level of reporting.
- I vote for Option 1c because it is more beneficial to the state.
- I support Option 1c so that we don't get squeezed out of the fishery.

***New Bedford, MA***
***July 8, 2015***
***15 Participants***

ASMFC: Megan Ware (Staff), Dan McKiernan (Commissioner), Bill Adler (Commissioner), Bob Glenn (TC Chair)

Attendees: Burton Shank (NOAA/NEFSC), David Borden (AOLA), Bill D. (NOAA), Paul O'Donnell (Ocean Fleet Fisheries), Beth Casoni (MLA), Grant Moore (F/V Director), Richard Allen (Little Bay Lobster), Paul Hagan (Legal Sea Foods), Allison Murphy (NOAA), Derek Perry (MA DMF), Steve Wilcox (MA DMF)

Issue 1: Data Collection

Participants did not have any comments on how data should be collected.

Issue 2: Commercial Permits

All meeting participants were in favor of requiring a lobster permit or an incidental permit for the catch of Jonah crab in order to prevent the proliferation of gear. Comments included:

- AOLA supports Option 5. This is a mixed fishery (Jonah crab and lobster) and traps are virtually indistinguishable so there needs to be a direct link between the lobster permit and the Jonah crab permit. If you don't tie this to the lobster permit you will have a proliferation of traps which is not good for the large whale take reduction plan. * *A complete comment letter was also submitted by AOLA.*
- I am for Option 5 because without tying the fishery to a federal lobster permit, the proliferation of gear will be widespread. We have worked hard to get traps out of the water.
- MLA is in favor of Option 5 because if there is another fishery with more vertical lines this will be counter-productive to the Take Reduction Plan. * *A complete comment letter was also submitted by MLA.*

Issue 3: Commercial Minimum Size

All meeting attendees favored a 5" minimum size (Option 6) because they believe this will protect the female population. Specific comments included:

- AOLA believes there should be a conservative minimum size in the absence of size-at-maturity data. Once we get data on this, we can reconsider this issue.
- Market size in 5" so processors don't want anything under this.
- When you go under 5", the percentage of females increases.

Issue 4: Commercial Minimum Size Tolerance

All participants favored a 5% tolerance (Option 2) but they were not sure that a weight standard is the best way to enforce this. Comments included:

- The way it is worded, you could be in violation with just one batch but this does not say anything about the percentage of catch that is undersized. You can't take one or two totes and say what the percentage of undersized crabs are. In order to prove any kind of a violation using a sampling procedure, you are getting into confidence limits and enforcement personnel are not trained to deal with this. With sea scallops this turned into a mess. We don't want to go down that road. I think that a tolerance can be enforced with sampling but it will be a horrendous task and the sampling has to meet statistical rigor. If it isn't statistically sound, you can't go to court. The problem is when the violation is at the margin. If there is a 5% tolerance the issue is when the percentage is 4.5% or 5.5%. Since fines can be substantial, it can get out of hand. Another idea is to set a weight based indicator, so that you count the number of crabs per 100 pounds and if the number is too high, you probably have crabs below the minimum size.
- The question is how we make the tolerance reasonable so that we support the minimum size but don't create a huge administrative burden. Maybe a volumetric weight standard would be better.

Issue 5: Crab Part Retention

All attendees were all in favor of a whole crab fishery but noted that studies are needed to determine the impacts of the claw fishery on the resource (Option 2). Comments included:

- AOLA supports Option 2. We would like to emphasize that the number of boats doing crab parts is minor so it wouldn't trouble us to cap this effort and grandfather them in to the plan. We should still recommend to NOAA that they enforce a whole crab fishery only.
- We need to do a study on the mortality of Jonah crab once the claws are removed.

Issue 6: Commercial Retention of Egg-Bearing Females

All participants were in favor of a prohibition on the retention of egg-bearing females (Option 2) but did question the zero tolerance on this measure. Comments included:

- AOLA is in favor of Option 2 but if the Board sets the minimum size correctly, it will prohibit 99% of all female crabs from being caught. Do we want enforcement officers having to look at the under-side of crabs or can they just look at the size? A discussion needs to be had of whether this management measure is really necessary.

- What happens if you have 1 egg-bearing female in your catch? My point is that this a high volume fishery and sometimes things happen. Does one egg-bearing female get you a ticket? Is there a way to protect these guys? Is it possible to have a hard count for egg-bearing females?
- We need some mechanism for what happens when a crew misses one or two egg-bearing females. Our company wouldn't stand for eggers because no one wants to buy them but I want to protect these guys. In 1.5 years of unloading, I haven't seen one yet but that is because I don't hand examine each crab. At no point is every individual crab being examined.
- In 10,000 crabs examined during port sampling, we had one egg-bearing female.
- If you have a minimum size, the plan should be silent on egg-bearing females. It won't be an issue if you have a minimum size. I am troubled by the implication by the focus on egg-bearing females when there isn't any biological basis.

Issue 7: Bycatch Limit for Non-Trap Gear

All participants were in favor of a bycatch limit (Option 2) but some attendees did not think that a weight was the best way to set this limit. Comments included:

- AOLA is in support of Option 2 but I am concerned that no one will have scales on the boats to measure bycatch. Instead of doing a weight perhaps a volumetric standard would be better.
- The bycatch limit should be a count instead of a weight. A typical weight of a crab is one pound and you can take a crate and put ~130 crabs in it. This means that there is room in one crate for more than 100 lbs.
- It seems to me that the count would be easiest for enforcement personnel. For crates, the issue is how full is full? Do you need to be able to close the lid on the crate?

Issue 8: Recreational Possession Limit

Meeting attendees were in favor of setting a recreational limit (Option 2). Comments included:

- Why is there an option for an unlimited recreational limit? The recreational limit should be 50 whole crabs.

Issue 9: Recreational Retention of Egg-Bearing Females

All participants were in favor of having a prohibition on the retention of egg-bearing females in the recreational fishery.

Issue 10: De Minimis Criteria

There were no comments on the *de minimis* criteria.

***Narragansett, RI***
***July 9, 2015***
***21 Attendees***

ASMFC: Megan Ware (staff), Dan McKiernan (Commissioner), Eric Reid (Proxy Commissioner), Bob Glenn (TC Chair)

Attendees: Jeff Mercer (RI DEM), Scott Olszewski (RI Marine Fisheries), Patrick Duckworth (commercial fisherman), Richard Allen (Little Bay Lobster Co), Walter Anoushian (NOAA), Wayne Fredetter (fisherman), Don Deberarding II (fisherman), Albert Christopher (lobster fisherman), Larry Dellun, Brian Thibeault (Red Tail Fishermen), David Borden (AOLA), Greg Mataronas (RILA), John Swoboda (lobster fisherman), Derek Perry (MA DMF)

Issue 1: Data Collection

Meeting participants did not have any comments on fishery dependent data collection.

Issue 2: Permits

One meeting attendee stated a preference for maintaining the status quo (Option 1) while three others favored tying the Jonah crab fishery to the lobster permit (Option 5). Some of the concerns brought up were in relation to area management and the restrictions on state v. federal fishermen. Comments included:

- I am in favor of Option 1 until we get more clarification on who is a state vs. federal Jonah crab fishermen. Until we know how many state guys are landing Jonah I don't want to make any rushed decisions. I don't want the federal interests to overwhelm the interests of the state fishermen. Maybe there needs to be a difference between state and federal permitting.
- Maybe institute an exemption permit if you are crabbing so that you couldn't have any lobsters in the boat. One issue I see right now is that you could be catching sand crabs and that goes down a slippery slope.
- If you let this fishery go unchecked you will pay for it. You have to address effort now. Whales are whales and if you put a million lines in the water you will have problems.
- We need to have area management in the Jonah crab fishery that reflects the area management in the lobster fishery.
- If they attach the Jonah crab fishery to the lobster permit and I have an Area 2 lobster permit, can I fish Jonah crab in Area 3?

Issue 3: Commercial Minimum Size

Two attendees were in favor of no minimum size (Option 1) while the rest favored a 4" minimum size (Option 2). Concerns were expressed about setting the minimum size too high and blocking the Area 2 fishermen from the fishery. Comments included:

- If you throw back females, you don't need a minimum size. We don't need a minimum size because people don't want small size crabs; there is no market for them.
- The increase in landings is due to fishermen wanting to show a record of landing because they don't want to lose this privilege. They don't want to get shut out of the fishery. I'm not sure there is really an increase in effort.
- I am for a minimum size between 4"-4.25". If we start anywhere bigger than that, the Board will just keep raising the size until we have nothing.
- We are seeing more recruitment than I have ever seen with thousands of small crabs in the water. There is no danger of a stock collapse anytime soon. I suggest taking your time and waiting for size-at-maturity studies to come and then decide what the minimum size should be. We don't even know what we are doing because we don't have the data and we aren't in danger of a stock collapse.

- We need a minimum size for the fishery to be sustainable.
- The market standard is 4.75" so we need a minimum size smaller than that.
- We will put ourselves out of business if we pick the wrong minimum size. The original minimum size you choose is never the one that is there in the end so we have to start small.
- We need area management. Otherwise the Area 2 guys will be out of work because the crabs we catch are smaller than the ones caught in Area 3.

Issue 4: Minimum Size Tolerance

Meeting participants were split in their favor of either a 5% (Option 2) or 10% (Option 3) tolerance. Concerns were raised as to how this tolerance would be enforced.

- I am for Option 2 because at the infancy stages of the fishery we need an on deck tolerance of at least 5%.
- If you pick a minimum size you need a tolerance. I am in favor of Option 3 right out of the gate. There is lots of volume in this fishery and there needs to be leeway.
- I am confused what the tolerance does to the minimum size. The minimum size just becomes a criteria in determining the tolerance but it sounds like small crab aren't illegal. The way this is worded, it is not clear whether undersized crabs are allowed in the market.
- I am for Option 2 or 3. If you come in with 5000 crabs and you have 1 under the minimum size then you are screwed.
- If you don't have a tolerance you don't have a fishery. One reason for this is that it is really hard to measure crabs.
- If you look at the data, the fishery is already self-regulating. Almost no crabs under sexual maturity are being brought in. At this point, we should just worry about the permits and deal with the rest of the plan after we have data.
- There is no benchmark to reach sustainability so to ask fishermen to have a minimum size and a tolerance, we have to set the definition of sustainability. Economics should not be handled by the biologists.

Issue 5: Crab Parts

There were no comments on whether the Jonah crab fishery should be parts or whole crabs only.

Issue 6: Commercial Retention of Egg-Bearing Females

Two meeting attendees were in favor of no retention of egg-bearing females (Option 2) and two others did not believe this issue should be in the management plan. Comments included:

- I am for Option 2. The egg-bearing females that I have seen are always smaller than market size.
- Egg-bearing crabs are being sold and there is a market for them. We need this management measure.
- There is no need for a discussion on egg-bearing females because the minimum size will take care of this.
- A 4.5" size limit eliminates a need for this option. Do we want enforcement personnel to look at the underside of each crab?

Issue 7: Incidental Bycatch for Non-Trap Gear.

Attendees did not state a preference for one option or another but did offer comments on the management measure. They included:

- Sea bass pots should be considered non-trap gear.
- The bycatch limit should be set in pieces rather than pounds. It is easier to count Jonah crabs then to figure out how many crabs are in 100 pounds. A crate limit doesn't work because then we get into the issue of what defines a crate.

Issue 8: Recreational Possession Limits

There were no comments on this issue from meeting participants.

Issue 9: Recreational Retention of Egg-Bearing Females

All meeting participants favored a prohibition on the retention of egg-bearing females. Comments included:

- I am for Option 2 but if you have a minimum size in the recreational fishery you don't need this. There is no magic about catching female crabs as there is with lobsters. There is no problem harvesting female crabs. We don't have to worry about the few that get brought in with the minimum size. This is just another regulation that will create problems.

Issue 10: De Minimis Criteria

There were no comments on *de minimis* criteria.

***Ocean City, MD***
***June 30, 2015***
***16 Attendees***

**Meeting Staff:** Toni Kerns (ASMFC), Megan Ware (ASFMC), Max Appelman (ASMFC), Spencer Talmage (ASMFC), Craig Weedon (MD DNR)

**Meeting Participants:** Jim Dawson (fisherman), Kerry Harrington (F/V Seaborn), Brad Stevens (UM Eastern Shore), Roger Wooleyhan (F/V Wooley Boccy), Shaun Wooleyhan (F/V Labrador), Lang Rose (F/V Toe Jam), Steve Ellis (NOAA), Wes Townsend (F/V Paka) Sonny Gwin (F/V SK Alex) Merrill Campbell (Southern Connections)

Issue 1: Fishery Dependent Data Collection

Meeting participants stated support for harvester and dealer reporting (Option 2) and harvester and dealer reporting with sea sampling (Option 3). 9 participants supported Option 2 while 1 participant supported Option 3. No comments were given on what the level of harvester reporting should be but the participants noted they currently report 100% of catch. Comments included:

- Option 2 is already what we are doing so no need to change the reporting system
- Fishermen are reluctant to have state sampling since this often leads to fishery shut-downs

- We need the biological sampling in Option 3 so that we can prove our resource is under-utilized and fishing on the species can increase

Recommendations on the wording of the options for fishery dependent data collection included:

- The dealer report should not include the areas fished since it is the harvester's job to provide that information
- In the reporting there should be a differentiation between claws or whole crabs because right now we are just reporting pounds. A conversion factor is needed for this.

Issue 2: Commercial Fishery Permits

One meeting participant stated support for a new crab-only permit (Option 3), one stated support for connecting the Jonah crab fishery to the lobster permit (Option 5), and all other participants supported maintaining the status quo. Comments included:

- There needs to be a study before any measures, including permits, are made for this fishery. Therefore, we should keep all permitting status quo.
- Designing a Jonah crab-only pot (Option 4) does not seem feasible. The pot will undoubtedly catch lobster.
- There is not one Area 3 permit boat in MD right now. With the control date and the potential for a limited entry fishery, we are afraid that MD fishermen will get squeezed out since landings in New England are much higher.
- I don't agree with the approved trap design (Option 4). You need to identify all users in the fishery before making management decisions.

Issue 3: Commercial Fishery Minimum Size

Two participants stated that they did not want a minimum size (Option 1). The other participants did not give a preferred option but generally agreed that they are only catching big crabs.

- You should be able to keep whatever is in your pot no matter the size so there should not be a minimum size.
- There should not be a minimum size because it is harmful to the fishery. Minimum sizes cause genetic shifts in the population towards smaller individuals. Removing large males can also cause sperm limitations. Furthermore, high discard rates often lead to higher mortality rates. It is important to spread out the catch among all sizes so that you have a balanced harvest. (*Brad Stevens also submitted written comment which more fully explains his view*)
- Due to the 2 inch vents on our pots, all of the crabs we catch are of a larger size.

Issue 4: Minimum Size Tolerance

Meeting participants did not have any comments on this management measure.

Issue 5: Crab Part Retention

One participant was against the harvest of crab claws (Option 2) while all others supported a claw fishery (Option 1). Comments included:

- We harvest the same number of Jonah crab claws as we did 30 years ago. This proves that this is a sustainable practice.

- The stone crab fishery provides an example of a fishery that has recovered due to the practice of declawing.
- Crabs can still mate and eat without claws.
- Declawing should not be allowed because it is harmful to the crab. The practice reduces growth and feeding rates. Furthermore, the claws grow back very slowly (up to 3 molts) and that might be the entire lifespan of the individual. Finally, you cannot properly count what is landed if you just have the claws. (*Brad Stevens also submitted written comment which more fully explains his view*)

Issue 6: Prohibition on Egg-Bearing Females

Three meeting participants favored a prohibition on egg-bearing females (Option 2), one participant favored a prohibition on all females (Option 3), and one participant favored no probation on catch (Option 1). Comments included:

- There isn't a market for crabs with eggs so Option 2 is the best.
- I don't see many egg-bearing females so Option 2 would not be an issue.
- I am for Option 3 because the more females the better.
- We are primarily a claw market in MD so we don't keep the crabs anyway.
- There is no data to show that protecting egg-bearing females helps the population. In fact, data shows that removing a portion of the females may help dampen population fluctuations. I am for Option 1 because if you just remove the males, you will end up with an unbalanced sex ration. This means less fit males will be mating with fit females. (*Brad Stevens also submitted written comment which more fully explains his view*)

Issue 7: Bycatch Limit for Non-Trap Gear

The participants did not state a specific preference for a bycatch limit but did have some recommendations on how the bycatch limit should be implemented.

- I recommend that they don't specify a poundage but specify the number of bushels of bycatch.
- As a point of reference, as a gill-netter it is not unusual to catch 100 pounds of claws in a day. I am not sure what the conversion to poundage is but this should serve as a reference point.

Issue 8: Recreational Possession Limit

There is no recreational fishery in MD and the participants had no comments.

Issue 9: Recreational Retention of Egg-Bearing Females

There is no recreational fishery in MD and the participants had no comments.

Issue 10: De Minimis

Participants did not comment on whether the commercial and recreational fisheries should be combined or not but they did comment on the percentage to qualify for *de minimis*. The comments included:

- 3% is too low, it should be more like 5%.
- Claw fishermen do not know where we are at in terms of landings because we don't have a conversion factor to whole pounds.

- There should not be any *de minimis* states because we need as much biological sampling as possible to determine the status of the fishery.

General Comments

Meeting participants also made numerous comments on the overall Draft FMP. They are as follows:

- The Jonah crab fishery is an under-utilized resource in MD. We should not be limiting effort since the fishery has the capacity for greater effort.
- There are some things that the plan should include: 1) we need a stock assessment to support the plan; 2) a TAC should be set around a natural limit of 5-10% because if you implement a TAC you don't need these other measures; 3) a Marine Protected Area should be created for the species to protect the spawning stock and habitat; 4) a rights-based management system, such as ITQ's, should be implemented. (Brad Stevens also submitted written comment which more fully explains his view).
- The whole FMP is based on what might happen rather than fact. There is no research. My real problem is what does Delhaize have to do with the fishery? You are trying to appease grocery stores with this document. If I thought that Jonah crab was in trouble, I wouldn't be saying this. This document is the beginning of more regulations that aren't needed.
- The Jonah crab fishery is a northeast problem. We have a sustainable fishery in MD. Our biggest concern is that fishermen will overfish in the North and then move into our waters.

ATLANTIC OFFSHORE LOBSTERMEN'S ASSOCIATION

Grant Moore, President
*exec@offshorelobster.org*

David Borden, Executive Director
*dborden@offshorelobster.org*

Robert Beal, Executive Director
Atlantic States Marine Fisheries Commission
1050 N. Highland Street
Arlington, VA 22201

Dear Bob:

On behalf of the Atlantic Offshore Lobster Association (AOLA) I would like to offer some preliminary comments and perspectives on the draft Jonah Crab fishery management plan. The comments are reflective of the positions taken by our Board of Directors to date and we intent to revise these comments based on what we hear at the public hearings and also based on comments from members during the next several weeks. This is an extremely important issue for most of our members and it is critical to adopt a basic fishery management program that will ensure the long term sustainability of this important resource. This is particularly true in the Southern New England (SNE) lobster stock area, which has suffered declining catches of lobster in recent years. The expanding Jonah crabs fishery in this area has allowed a number of vessels to diversify and prosper during a difficult period of time in the SNE lobster fishery. We commend the Commission for initiating this management process in a timely manner and urge the Board to adopt provisions at the next meeting in August.

Specific points:

**Statement of the problem (p.12):** We very much agree with the characterization and issues identified by the PDT. These issues are very real and need to be addressed if we want to avoid problems in the near future. Since the Jonah crab fishery is both targeted and a bycatch in the lobster fishery, it is imperative to integrate these two management programs, both use the same gear and are therefore indistinguishable. Management strategies, and any alternatives identified by the industry, should focus on solving the problems identified by the PDT.

**Goals (p. 12):** We agree with the goals and objectives of the management program but believe that objectives 1, 3, and 6 should be the main focus. We are not quite sure of the intent of objective 5, and it may not be necessary if uniform coastal regulations are adopted by the Commission.

**Management Unit (p. 12):** We support the management unit as proposed and it should include all state and federal waters.

**Monitoring program (p. 14):** Since this is a data poor stock, it is critical for the Commission to integrate and implement a fishery dependent and fishery independent data collection and monitoring program. We therefore believe that option 3 best characterizes the format to utilize. In our view, as a first step, all vessels landing Jonah crab and lobsters from federal waters should be required to complete a VTR on all trips, which will require a change in federal law.

In regards to state waters, we believe that the PDT should work with the State agencies to identify the most cost effective way of collecting crab data from State waters. Given that only a small portion of the Jonan crab catch is attributable to State waters the Commission needs to balance the need for inshore data versus the cost imposed on State agencies. At a minimum, the State agencies should continue their current lobster data collections at the same level of intensity, but extend that effort to include Jonah crab.

**Commercial Management Measures (p. 17):**

**Issue 1- Permits:** We strongly support option 5, which requires individuals to hold either a lobster license or incidental permit. The rational for this position is well stated in the Purpose and Need of Action statement on Page 18 which says:

> *"As described in the statement of the problem, the mixed nature of the fishery makes it difficult to manage a Jonah crab fishery completely separate from the American lobster fishery without impacting the number of vertical lines and traps capable of catching lobster in state and federal waters, thus potentially impacting the effectiveness of the lobster industry's conservation measures to reduce traps and avoid interactions with large whales."*

This requirement is both reasonable and prudent given the extensive efforts by NOAA to reduce the number of vertical lines in the water to protect whales and other protected species. In addition, since a trap fishery for either species catches both, a separate licensing program for Jonah crab would present endless opportunities for unscrupulous individual to circumvent the trap cuts in the lobster plan.

**Issue 2- Minimum Size:** AOLA supports option 6, a 5 inch minimum size with a tolerance. There are several reasons for this recommendation. There is not a stock assessment available for this species and neither is there a great deal of up to date information on the sexual maturity rates of Jonah crab. In addition, most of the product being landed currently are males and most of the current catch is 5+ inches in size. The few scientific studies available do indicate that a 5" minimum size would allow most or all females to reproduce and a majority of the males to reproduce before recruiting into the fishery. Given the lack of current area specific stock assessment information and or sexual maturity data, we think it imperative for the Commission to be risk averse and set the size high enough in order to protect the stock. It is our belief that a 5" carapace size will ensure the long-term sustainably of the resource while additional studies are completed on this important subject. We note that the CFRF /Massachusetts DMF was recently awarded a grant to develop size specific sexual maturity estimates for Jonah crab by area, and the study will be initiated in the next few months. This information will be critical in determining an appropriate minimum size, but in the interim period we should use the scientific information available and be precautionary. Finally, as indicated in the Fishery Improvement Process (FIP) recommendation, this size is supported by the processing sector provided that there is a tolerance associated with its implementation.

**Issue 3- Tolerance:** We support option 2 which is a 5% or less tolerance, although we want to reserve comments on the specifics of how the tolerance will be administered and enforced. As you know, this is a volume fishery with some vessels landing 40,000 to 60,000 crabs a trip; therefore efforts need to be made by the management system to balance resource protection with a reasonableness standard. A critical component of any tolerance will be the mechanism by which it gets implemented and enforced.

This is important from both the fishers' and enforcement agents' perspective. In the case of the fisherman, they want a standard that is reasonable, practicable, easily used at sea, and promotes efficiency. Any requirement to handle and measure each crab will certainly promote inefficiency on the vessel, and also at the dealer level.

That being said, the Enforcement agent also want a standard that meets many of those same criteria but allows sub sampling and does not require agents to measure all of the crabs from a given trip. In reality most crab being landed are above a 5" minimum (refer to table 2 on page 55 of the FMP) and this condition is further supported by the processors who do not want to process crabs less than 5" due to yield considerations i.e., the yield goes down as the size goes down, but the cost per pound goes up due to increasing labor costs.

ASMFC has tasked its enforcement committee to meet in July to review the industry practices and develop comments for Board consideration. We think this a positive step and industry involvement in the process should, hopefully, insure that both sides strike the appropriate balance. Some of our members will be in attendance at the enforcement meeting and we intend to comment further after that session.

**Issue 4-Crab part retention:** We support option 2, which is requirement to land whole crabs. Crabs are landed for both the meat and claw markets. We therefore think it critical to insure that the crabs are landed whole to enable enforcement of the minimum size standard. That being said we do recognize that there is a small, very limited seasonal, historic, claw only market in the Mid-Atlantic, as noted on p.6:

> *"The practice of declawing the Jonah crab while fishing lobster traps and pots occurs in the Atlantic Ocean off the Delmarva Peninsula Delaware/Maryland and Virginia). The Jonah crab is a by-catch species in the American Lobster Fishery, and some (est. < 5) fishing vessels (F/V) remove the claws of the large Jonah crab, which are most likely male, and return the crab to the ocean alive. The F/Vs that declaw Jonah crab typically do not retain whole crabs because they have local dockside customers that prefer only the claws. Declawing is typically conducted in LCMA5 within the EEZ, and those landings are less than 1% of the total Jonah crab fishery. majority (>90%) of the Jonah crab landings in the Delmarva Peninsula, specifically Ocean City Maryland were caught in lobster traps in LCMA3 and landed as whole crab in the last 5 years."*

It is unclear from the information in the document as to the exact volume of crab claws being landed and this should be clarified. However, it appears from the information that the declawing efforts are very limited in both poundage and geographic area and it may be possible for the State agencies to develop a conservation equivalency program or sea sampling program to ensure that the claws are only from legal crabs. If an exemption is granted to this area, it should not be extended beyond the zone where this practice is currently in operation.

**Issue 5-Prohibition on retention of egg bearing females:** We think it prudent to prohibit the retention of egg bearing female crabs in order to ensure the long-term sustainability of the resource. As the document notes, there are few egg bearing female crabs being landed now, and it is highly desirable to prevent the development of such a fishery for roe or bait. That being said a properly set minimum size will preempt any such fishery, since most of the female egg bearing crabs are far below 5" in size.

However, there are some female crabs that exceed the 5 inch carapace size so any such prohibition would require fishermen, processors and enforcement agent to examine all crabs for eggs and or administer another tolerance. As such, as a first priority, we think the Commission needs to be conservative with its selection of a minimum size, in order to protect egg bearing female crabs, but it should also weigh the industry and enforcement costs and benefits of this requirement. As an alternative, it may be possible to waive this requirement in the initial plan, but require the States to monitor landings and determine the level of egg bearing females landed solely under the minimum size standard. If the amount is minor, say 1%, no action needs to be taken, but if it is higher the issue should be addressed by an Addendum. States would also have the right to adopt more stringent State regulations under the most restrictive provision, should an area specific problem arise. This latter strategy would simplify administration of the program for the industry and State enforcement agencies.

**Issue 6- Incidental bycatch for non-trap gear:** We support option 2, 200 pounds a day up to a maximum of 500 pounds per trip. Bycatch in this fishery is extremely low, as indicated in the document, but it does exist, and therefore it is logical to allow some limited bycatch to take place. One consideration would be to limit the amount landed to a volumetric standard vs. poundage, which should enhance enforcement. Most vessels do not possess scales so it might promote compliance to use a volumetric standard such as a standard crate of crabs per day, not to exceed some number of crates total. It might be desirable to also have this concept discussed by the Enforcement committee when they meet.

**Section 4.2. Recreational Measures( p. 19):** Given the lack of biological information on the Jonah crab resource, the cornerstone of this management program will be the minimum size. Although the recreational section of the document did not contain a minimum size option, we believe the recreational fishery should have to meet the same size standard as the commercial fishery, so in this case we recommend 5 inches. In addition, we agree with a possession limit of 50 whole crabs (Issue 1, option 2). We do not support the mutilation of crabs, i.e. the landing of claws only in the recreational fishery as it will complicate enforcement of the minimum size.

**Section 4.3.3 De minimis fishery guidelines (p. 20):** We support sub-option 2a or 1 %. Based on current reported landings, a state could land less than 170,000 lbs. of crab in their combined commercial and recreational fishery and still qualify for the de minimis standard. However, we believe that any state that qualifies for de minimis should also have to adhere to the minimum size standard and maintain a reporting/monitoring program of adequate intensity to document landings.

In conclusion we believe that the alternatives in this document should be approved at the August Board meeting for implementation in 2016. As indicated above we intend to submit our final recommendation prior to the July 24, 2015 comment deadline.

Thank you very much for the opportunity to comment

Sincerely,

David Borden

David Borden
Executive Director

Massachusetts Lobstermen's Association, Inc.
8 Otis Place ~ Scituate, MA 02066
Bus. (781) 545-6984 Fax. (781) 545-7837

July 13, 2015

Megan Ware
ASMFC
1050 N. Highland St, Suite A-N
Arlington, VA 22201

RE: Comments on the DRAFT Interstate Fishery Management Plan for Jonah Crab

Dear Ms. Ware,

On behalf of its 1700 members, the Massachusetts Lobstermen's Association (MLA) respectfully submits this letter of comment to the Atlantic States Marine Fisheries Commission (ASMFC) on the DRAFT Interstate Fishery Management Plan for Jonah Crab, May 2015.

Established in 1963, the MLA is a member-driven organization that accepts and supports the interdependence of species conservation and the members' collective economic interests. The MLA continues to work conscientiously through the management process with the Division of Marine Fisheries (Division) and the Atlantic States Marine Fisheries (ASMFC) to ensure the continued sustainability and profitability of the resource in which our fishermen are engaged in. The MLA has been an active participant in the Atlantic Large Whale Take Reduction Team (ALWTRT) process since its creation back in 1996.

The MLA comments are as follows;

**Option 1: Monthly Reporting**

The MLA supports the Plan Development Team (PDT) recommendation requiring ALL fishermen with a federal vessel trip reporting (VTR) must report for all trips. The MLA would also recommend requiring ALL fishermen, whether state or federally permitted; landing Jonah Crabs is required to report landings. The MLA encourages the collection of data, as recommended by the PDT, be mandatory reporting on a monthly basis to monitor the landings, seasonality of the fishery and to keep data collection current.

**Option 2: Coastwide mandatory reporting**

The MLA supports the PDTs **100% mandatory dealer reporting** and encourages the Board to also require 100% harvester reporting. The MLA supports **Sub-Option 1: 100% harvester reporting coastwide**. The value in collecting 100% data from both the harvesters and dealers is vital to the continued success and increased profitability of Cancer Crab fishery.

**Options 3: Coastwide mandatory reporting and fishery dependent sampling**

The MLA supports the PDTs recommendation for a 100% mandatory dealer reporting and Sub**-option1: 100%** harvester reporting. We agree with the proposed two-ticket system which will create a checks and balance system for the fishery.

## 4. Proposed Management Program Implementation

### 4.1 Commercial Fisheries Management Measures

The MLA supports ***Option 5: Directed Fishery and incidental permit requirements***. "Participation in the directed trap fishery would only be allowed only for those persons or vessels that already hold a lobster permit from whatever jurisdiction the vessel is authorized to fish in, and all traps must conform to specifications of the lobster management plan, including the trap tag and escape vent requirements. Landing of Jonah crab by all others would require an incidental permit from a state or federal agency for the appropriate jurisdiction in which the vessel if fishing and would be subject to landing limits (outlined in issue 6)."
http://www.asmfc.org/files/PublicInput/DraftJonahCrabFMP_PublicComment.pdf

The MLA strongly encourages the PDT to not allow the creation ANY new fishery that could introduce more vertical lines into the water. The MLA would see this be counter productive the efforts of the Atlantic Large Whale Take Reduction Plan and unethical as the lobster industry has been mandated to reduce vertical lines in the water.

**Issue 2: Minimum size**

The MLA supports **Option 6: 5" minimum** size for Jonah Crabs. The current Jonah Crab market demands are for a 5" or larger crab and we encourage the PDT to approve this option.

**Issue 3: Commercial minimum size tolerance**

The MLA supports **Option 1: No tolerance for undersized crabs**. The MLA also recommends the development of an acceptable tolerance, specific for the volume crab fishery that are landing tens of thousands of pounds where a zero tolerance is impractical on this scale.

**Issue 4: crab Part Retention:**

The MLA supports **Option 2: Only whole crabs may be retained and sold**. The MLA does not support any type of mutilation at sea where a species can be exploited and encourage the PDT to accept Options 2.

**Issue 5: Prohibition on Retention of Egg-Bearing Females**

The MLA supports **Option 2: Egg-bearing females may not be retained**. The MLA strongly encourages the PDT to implement this option to ensure the continued success and sustainability of the resource just as it has done in the lobster fishery.

**Issue 6: Incidental Bycatch limit for non-trap gear**

The MLA supports limiting the amount of bycatch for non-trap gear types are done by on a count rather than by pounds. Although the PDTs **Option 2: 200 pounds per day up to a max of 500 pounds** per trip is a good starting point we recommend using a 100 count per day up to 500 count per trip to allow uncomplicated enforceability by law enforcement.

### 4.2 Recreational Fisheries Management Measures

**Issue 1: Possession limits**

The MLA supports **Option 2: 50 (whole crabs); or 100 claw possession limit per person**. The MLA strongly encourages the PDT to implement the 50 count for recreational permit holders.

**Issue 2: Prohibition on Retention of Egg-Bearing Females**

The MLA supports **Option 2: Egg-bearing females may not be retained**. The MLA strongly encourages the PDT to accept and implement the same restrictions on this as with the commercial fishermen. While there was no mention of a tolerance for the recreational fisherman there should be a zero tolerance implemented.

**De Minimis Criteria Options**

The MLA supports **Option 2: Recreational and Commercial combined de minimis status**. The MLA supports sub-Option 2A: X= 1%. A state which has landings less than 170,000 pounds of crabs landed for both the recreational and commercial fisheries should be allowed the de minimis status. The MLA strongly encourages the PDT to require these states to be held to the minimum size standard and require reporting and monitoring programs to ensure the continued success and sustainability of the resource.

Currently within the Draft Plan there are certain measures that are subject to change under adaptive management and the MLA encourages the PDT to keep these in place for any future actions.

**4.4.2** "The following measures are subject to change under adaptive management upon approval by the American Lobster Management Board: (1) Fishing year and/or seasons; (2) Area closures; (3) Overfishing definition, MSY and OY; Reference points (4) Rebuilding targets and schedules; (5) Catch controls for both the commercial and recreational fishery, including trip/bag and size limits; (6) Effort controls; (7) Bycatch allowance (8) Reporting requirements; (9) Gear limitations; (10) Measures to reduce or monitor bycatch; (11) Observer requirements; (12) Management areas and unit Draft Jonah Crab FMP for Public Comment 23 (13) Definition of a trap; trap requirements and specifications (14) Recommendations to the Secretaries for complementary actions in federal jurisdictions; (15) Research or monitoring requirements; (16) Frequency of stock assessments; (17) De minimis specifications; (18) Maintenance of stock structure; (19) Catch allocation; and (20) Any other management measures currently included in the FMP."
http://www.asmfc.org/files/PublicInput/DraftJonahCrabFMP_PublicComment.pdf

In closing, the MLA agrees with the Atlantic State Marine Fisheries Commission on the importance of creating a Jonah Crab Plan which is essential to properly manage the fishery to ensure the continued success and sustainability of the resource. We are encouraged that this Plan will allow for more research on the species along with implementing a stock assessment.

Thank you for taking the time to read our comments and the consideration for our recommendations to the DRAFT Interstate Fishery Management Plan for Jonah Crab. If you have any further questions please feel free to contact me at 781-545-6984 or at beth.casoni@lobstermen.com.

Kind regards,

Beth Casoni

B. Casoni
Executive Director, MLA

New England Fishery Management Council
50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

July 10, 2015

Mr. Robert Beal
Executive Director
Atlantic States Marine Fisheries Commission
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Re: Comments on Draft Interstate Fishery Management Plan for Jonah

Dear Mr. Beal:

Thank you for the opportunity to review the Draft Interstate Fishery Management Plan for Jonah Crab (ISFMP). This ISFMP, if adopted, will manage a fishery that takes place almost entirely in the Exclusive Economic Zone. According to the Magnuson-Stevens Fishery Conservation and Management Act, management of fisheries in federal waters is the purview of the regional fishery management councils. The Council recognizes, however, that there are immediate challenges facing this fishery that can be more rapidly addressed by the Atlantic States Marine Fisheries Commission (ASMFC). For this reason, we support the development of an IFMP to address management issues in the short-term while reserving our prerogative to manage this fishery in the future.

While the Council supports the development of an ISFMP, we are concerned that the draft FMP does not fully address all of the issues highlighted in my letter of January 30, 2015. That letter highlighted five issues raised during Council discussions on Jonah crab. Please consider the following comments as the ASMFC deliberates this action.

The draft ISFMP does not consider specific limits on the number of traps fished or the total catch in the Jonah crab fishery. From an examination of observer data, it is clear that Jonah crab distribution overlaps that of many other fisheries, particularly in the Gulf of Maine and northern Georges Bank (see attached figure). This suggests a possibility that the Jonah crab fishery may expand into new areas. While we recognize that some of the management options link participation in this fishery to lobster permits and trap limits for that fishery, we are concerned that an increase in Jonah crab trap activity, or a change in the distribution of Jonah crab effort, could lead to increasing gear conflicts between mobile and fixed gear fishermen. The IFMP does not address how these conflicts will be addressed.

The draft ISFMP makes few provisions for at-sea monitoring of the fishery. The fishery dependent data options in the document focus on reporting requirements and dockside sampling. This is a cause for concern, since questions have been raised recently about finfish bycatch in other trap fisheries. A lack of observer data makes it difficult to resolve these questions in any definitive way. State at-sea sampling of the lobster fishery tends to focus on near-shore areas and not the offshore activity associated with targeting Jonah crab. As this is an expanding trap fishery, it is important that interactions between this fishery and other species be carefully monitored. Since recent news articles report objections of some trap fishermen to observer coverage, it is critical for the IFMP to clearly state that at-sea monitoring of this fishery is required and a plan should be developed for providing that coverage.

With respect to vessel reporting, all Jonah crab vessels should be required to submit VTRs that report all catches, consistent with other federally-managed fisheries. Since this is an expanding fishery, the options that would require less than 100 percent of all harvesters to report their catches and effort should not be adopted.

Four of the five permit options in the draft ISFMP would limit the directed fishery to the use of trap gear. There is an option that proposes to allow incidental landings of Jonah crab by gear other than lobster traps, with options for either unlimited catches or catches limited to a trip limit. It is never explained why targeting of Jonah crab should be limited to trap fishermen, and so it is not clear that there is a conservation reason for doing so. Since there are no options that propose to limit the total catches of the trap fishery (except for coincidental limits on lobster traps that might constrain crab fishing), it appears that the only reason to limit catches by non-trap gear is to allocate the directed fishery to trap fishermen. Regulations implementing this ISFMP in federal waters implemented under the Atlantic Cooperative Fishery Conservation and Management Act (ACFCMA) will need to comply with the National Standards found in the Magnuson-Stevens Act. Measures whose sole purpose is economic allocation would conflict with National Standard 5, which states that no measure shall have economic allocation as its sole purpose. A rationale for limiting the directed fishery to trap gear needs to be clearly explained, and it should clearly address the conservation benefits of doing so.

With respect to the incidental catch trip limit for non-trap gear, Option 2 proposes to limit catches to 200 lbs/day with a maximum of 500 lbs/trip. There are no analyses that explain how these values were determined, and as a result it is not clear if they are high enough to accommodate current non-trap participants in the fishery. An examination of non-trap observer data for the years 2008 through 2014 shows that about 3 percent of individual hauls catch 200 pounds or more of Jonah crab, matching or exceeding the proposed daily limit in one haul. While most of this catch was discarded due to a lack of markets, if markets develop it would be preferable to land these animals. Dealer data also show that some vessels occasionally land well over 500 pounds of crab. Option 2, if adopted will convert these landings to discards. In addition, the trip limit should be modified so that the trip total is based on an even multiple of the daily total. The formula used for the lobster incidental catch trip limit for trawls bases the total trip amount on five days of the daily limit; applying the same approach for Jonah crab would suggest a 1,000 pound trip limit.

While this is not a substantive comment on the proposed measures, the Council will decide whether to develop management measures for the Jonah crab fishery later this fall. I recommend this possibility should be described in Section 4.6.7 of the document.

I hope that these comments will be useful as the final measures for the Jonah crab fishery are developed. We look forward to continuing cooperation with ASMFC on this and other fishery management issues. Once again, thank you for providing the opportunity to comment on the IFMP. Please contact me if you have questions.

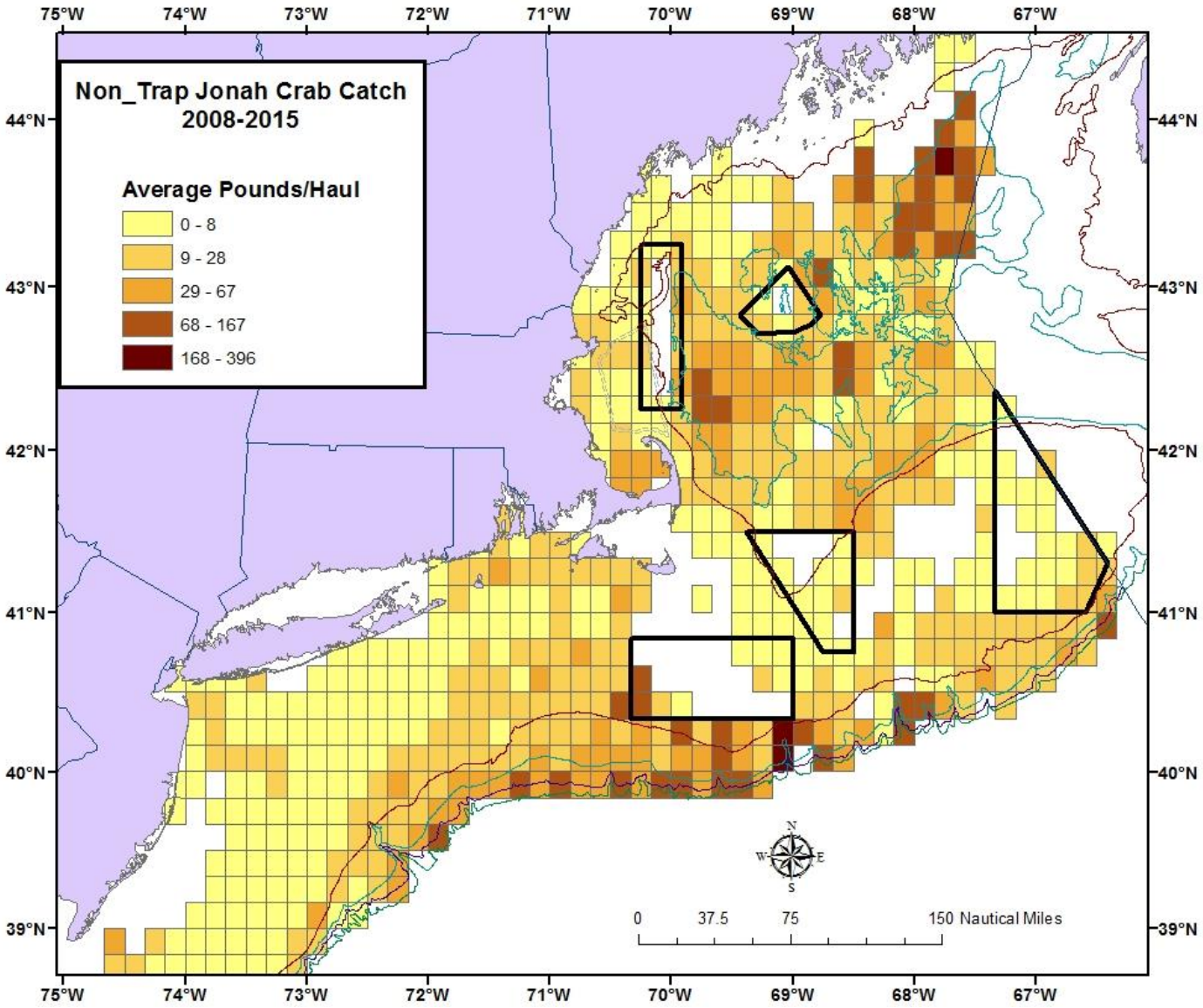
Sincerely,

Thomas A. Nies

Thomas A. Nies
Executive Director

cc: Mr. John Bullard

**Figure 1: Average catch per haul (or set) of Jonah crab by non-trap gear. Only ten-minute squares with more than three observed tows are plotted. Partial year data for 2015. NMFS NEFOP/ASM data.**



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUL 16 2015

Mr. Robert Beal
Atlantic States Marine Fisheries Commission
1050 N. Highland St, Suite A-N
Arlington, VA 22201

Dear Bob:

I first want to thank you and your staff for diligently and expeditiously crafting a draft Interstate Fishery Management Plan (FMP) for Jonah crab. I would also like to commend the hard work of the Jonah Crab Plan Development Team (PDT) for providing a wide range of draft management measures for the American Lobster Board and the general public to consider. However, I do have some concerns, which I would like to highlight.

Connection to the Atlantic Large Whale Take Reduction Plan (ALWTRP)

The draft FMP contains several statements that the continuation and potential future expansion of the Jonah crab fishery may compromise the effectiveness of the ALWTRP. This characterization is not consistent with how the ALWTRP functions. As you know, the ALWTRP is a program required by the Marine Mammal Protection Act to reduce the risk of serious injury and death of large whales. One of the key areas of the Plan's focus is injuries or deaths caused by entanglement in commercial trap/pot fishing gear. The current ALWTRP includes restrictions on pot and trap gear use, configuration, and marking. These requirements apply to all pot and trap gear capable of interacting with large whales and do not apply only to specific fisheries such as lobster. Therefore, the Jonah crab trap fishery is already required to follow measures under the ALWTRP.

The ALWTRP also includes a 5-year monitoring strategy that incorporates measures to evaluate its overall effectiveness and the level of compliance. Evaluating the frequency and severity of large whale interactions with fishing gear will require several years of monitoring to determine whether changes have occurred. However, the ALWTRP does provide for dynamic evaluation of ongoing changes that may affect whale interactions or takes. If we observed an increase in trap/pot fishing effort, or observed an increase the number of vertical lines in the water beyond the levels previously analyzed, we may pursue changes to the ALWTRP prior to the completion of the 5-year monitoring period. Such changes would occur through the Atlantic Large Whale Take Reduction Team. Moreover, if complementary Federal measures are needed under the Jonah Crab FMP, we would ensure the appropriate consultation with our Protected Resources Division staff occurs to ensure measures are compliant with the Marine Mammal Protection and Endangered Species Acts. This consultation would evaluate how the FMP measures may affect whales and other protected species and would determine any necessary changes to ensure compliance with these two acts. While a Jonah crab FMP is not needed to guarantee the

effectiveness of the ALWTRP, formal management may provide additional information to inform future ALWTRP actions.

Reporting Requirements

I support the inclusion of reporting requirements in the draft FMP. Fishery-dependent data collection programs will give both state and Federal scientists and managers better information. The Lobster plan currently requires 100-percent dealer and at least 10-percent harvester reporting, as well as at-sea and port sampling, and fishery independent data collection programs. The draft FMP includes harvester reporting options ranging from 10 percent to 100 percent. Selecting an option that differs from the Lobster Plan and Federal regulations could vastly expand mandatory Federal reporting, create conflicting requirements, and cause confusion amongst the industry. I encourage the Lobster Board to consider this when discussing potential reporting requirement options.

Permitting Options

The draft FMP includes multiple permitting options ranging from status quo to establishing new permits to target or incidentally retain Jonah crab. I support options that preserve existing levels of participation in the Jonah crab fishery. The permit options described in the draft FMP consider potential crab trap proliferation and a potential implied negative impact on the Southern New England lobster stock. There are no data in the draft FMP that indicate that crab trap proliferation is currently taking place. The document suggests that approximately 98 percent of the Jonah crab harvest comes from vessels with lobster permits whose traps are capped under the Lobster Plan. Further, the number of traps used by the majority of Jonah crab harvesters is limited because most states require a lobster or general crustacean permit to catch, retain, and sell Jonah crab. It would seem, from the information in the draft FMP, that the vast majority of effort in the Jonah crab fishery is already restricted by Lobster Plan and state regulation.

Should the Lobster Board pursue a limited-access permit option for Jonah crab, it should include qualification criteria for all historic participants, not just lobster permit holders. The document does not seem provide any justification for excluding historic crab-only harvesters from the fishery. Specifically, the draft FMP identifies the number of crab-only harvesters as being less than 10 permits, at least some of which are not active. It is difficult to imagine this level of effort having a meaningful potential impact on the crab or lobster fishery. At present, excluding crab-only permitted harvesters does not appear to satisfy any of the goals and objectives included in the draft FMP. It would be difficult for us to justify a limited-entry option that excludes crab-only harvesters in Federal waters unless additional, robust justification is developed and provided. Absent such justification, I think it would be very difficult for us to explain why it was necessary to exclude historic crab-only harvesters if such a measure were legally challenged.

Other Management Alternatives

Similar to permitting requirements, I believe the draft FMP includes many management alternatives that would benefit from further justification. I would urge the Lobster Board to support a fishery that only allows the retention and sale of whole crabs. The document does not contain information on the post-release survivability of Jonah crab after one or both claws has been removed. While I believe the protection of egg-bearing females and allowing Jonah crab to spawn prior to harvest is important for the sustainability of the stock, the draft FMP does not

contain information to inform such decisions. The draft FMP states that "there is a lack of Jonah crab maturity data in U.S. waters." Without such information, it might be hard for the Lobster Board to make an informed decision on what is best to sustainably manage Jonah crab. Rather, the Board would be basing its decision on the market-driven preferred size.

The draft FMP does effectively highlight the recent increases in landings. I believe the Lobster Board could consider a coastwide limit on Jonah crab landings. Such a measure, based on some level of historic landings, could be justified by the information contained in the draft FMP. Putting a catch limit in place, in conjunction with reporting requirements, would prevent additional pressure on the Jonah crab stock and halt the potential expansion of the fishery, while allowing for the collection of information that could inform future decisions on minimum sizes, retention of claws only, and/or limited entry considerations.

Tolerances

I do not support the proposed possession and landing tolerances for some amount of crabs below the commercial minimum size and for egg-bearing females included in the draft FMP. The Law Enforcement Committee advised against including tolerances in the draft FMP, as did the PDT. Such tolerances would be virtually unenforceable at-sea and challenging to monitor in landings. The Law Enforcement Committee suggested relying on the discretion of enforcement officers. Relying on the Law Enforcement Committee's technical expertise, I fully support its recommendation.

I believe some measures included the draft FMP may lend themselves to state-only implementation. These include reporting requirements, a minimum size, prohibition on retaining egg-bearing females, crab parts retention, and incidental bycatch for non-trap gear. We will certainly work with the Commission on comparable Federal measures, such as a limited access program, if the Lobster Board recommends such a program. As you know, our process is cumbersome and proposing, analyzing, and finalizing Federal regulations will require more time to implement.

Thank you for the opportunity to comment on the draft FMP for Jonah crab. I look forward to the discussion of all comments at the August Commission Meeting. If you have any questions, please contact Allison Murphy at (978) 281-9122 or allison.murphy@noaa.gov.

Sincerely,

for John K. Bullard
Regional Administrator

cc: Dan McKiernan, ASMFC Lobster Board Chair
Megan Ware, ASMFC Fishery Management Plan Coordinator

## Amy Hirrlinger

**From:** Comments
**Sent:** Monday, July 20, 2015 11:49 AM
**To:** Amy Hirrlinger
**Cc:** Megan Ware
**Subject:** FW: Jonah Crab FMP

**From:** Don DeBerardino II [mailto:dondnanuk@gmail.com]
**Sent:** Saturday, July 18, 2015 9:45 PM
**To:** Comments
**Subject:** Jonah Crab FMP

Please accept my comments on the Jonah Crab Fishery Management Plan,
First of all I believe we should have "AREA" plans, for instance Area 3 is Totally different than Area 2.We all agree that the biggest and most harvested Jonah Crab come from Area 3.Just like the lobster management is different for both areas.Area 539 and 537 are totally different areas.Less than 2% of Jonah Crabs are harvested in area 539, compared to 71.5% harvested in area 537! If processors are wanting bigger crabs which only come come from area 537 than only bring in big crabs for them.Here in Rhode Island we have a very good dockside sale of live lobster and crabs.Both Jonah and Sand crabs.By setting the same standard to us to those who sell to processors would wipe our ours sales as we DO NOT catch the BIG Jonah Crab as they do in area 537. If dealers want bigger crabs than they should only buy big crabs.By making us that crab in area 539 as the same as area 537 would be taking a lot from our livelyhood,and removing a very unique fabric of culture from our docks.We have over the last few years have found what people are looking for "live crabs" .Every culture that you can name has bought live crabs and lobster from me,generations of folks Grandparents down to grandchildren.Whole families come to the docks to buy "Fresh Live product , off the boats".

Thank you Don DeBerardino II
F/V UMIAK

These are my comments on the Jonah Crab FMP:
A.(section 3.4.1)
Issue # 1 Fishery Dependent Data Collection - Option 1
B.(section 4.1)
Issue # 1 Permits -Option 5
Issue # 2 Min. Size - Option 2 We can always go bigger but we will never go smaller.start here and change if changes are needed.Also area difference 539 vs 537
Also option 3
Issue # 4 Crab Part Retention - Option 2
Issue # 5 Retention of Egg Bearing Females - Option 2
Issue # 6 By catch Limit for Non-Trap Gear - Option 2
C.(section 4.2)
Issue # 1 Possession Limit - Option 2
Issue # 2 Retention of Egg Bearing Females - Option 2
D.(section 4.3.3)
???

Maggie Raymond <maggieraymond@comcast.net>
Jonah Crab FMP

Megan Ware
1050 North Highland St., Suite 200 A-N
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Ms. Ware:

The majority of the Jonah Crab fishery takes place in federal waters and therefore the fishery should be jointly managed with the New England Fishery Management Council as the lead.

Maggie Raymond
Associated Fisheries of Maine

Peter & Linda Roberts <roblobsta@comcast.net>
Rock Crab vs Jonah Crab

Ms. Ware,
Have read the proposed verbiage on the regulation of what is being referred to as the “Jonah Crab”—(erroneously?)

With a fair degree of formal education (Master’s Degree and teaching biology for almost 30 years) and hands-on commercial lobster fishing, I noticed a disturbing point in the use of the common name “Rock Crab” in the literature and photos when referring to what to many/most(?) fishermen has been commonly referred to as the Jonah Crab (a.k.a. eel grass crab, limber legs, etc.).

Now I realize common names are just that, and they are no substitute for the scientific names, but to needlessly “muddy the waters” by misusing (reversing?) the common names of these two species is unfortunate. In my locale the species that the proposed action(s) are clearly aimed at, “common name”- wise is the one we call the “Rock Crab” with its massive claws and slower reaction, and the other species with the smaller claws and very quick reaction is what we call the “Jonah Crab”.

The photos are unmistakable, but the descriptive verbiage is woefully inaccurate/inadequate. Anyone who has any firsthand experience with these two species learns to tell them apart, very quickly. Pick up one with the massive claws (heretofore a “Rock Crab”) carelessly and you have a second or two to correct your hand/finger position before you get ‘bitten’. Pick up the other species with the smaller but much quicker claws (heretofore a “Jonah Crab”) and you are almost guaranteed to be ‘bitten’.

Maybe I, and all the other fishermen in eastern Casco Bay, have been using the “wrong”/reverse common names for these two species for my approximately 60 years of commercial lobster fishing, but it doesn’t seem likely.
Your thoughts?
Peter Roberts
Lic. # 4256

**Comments on ASMFC Draft FMP for Jonah Crab**

Provided by Bradley G. Stevens, PhD, Professor, University of Maryland Eastern Shore

General: This FMP is woefully inadequate and misguided. Although the authors of the document were well intentioned, and included many traditional management concepts and assumptions, these are outmoded and have been proven incorrect for many fisheries. It does not incorporate features that are known to support sustainable fisheries. It will most likely lead to overfishing and eventual collapse of the Jonah crab fishery. Comments and responses to specific management measures (section 4.1) are listed below, and justification for these is included.

The Jonah Crab FMP is based on assumptions, paradigms, and dogmas of fishery management that have been in use for over 100 years, and which have largely been proven faulty. Most fisheries based on these ideas have suffered collapse or overfishing. The approach used for this FMP is "selective harvest" incorporating the traditional 6-S management philosophy, which includes restrictions on species, stock, size, sex, season, and space (Zhou et al., 2010). For most fisheries this approach has unforeseen impacts including reduced size, reproduction, production, and diversity. Selective harvest of certain species results in their being harvested or removed disproportionately to their abundance. This causes changes in biodiversity, which can result in increased predation or competition. Selection for large sizes may result in reduced size at maturity, favoring slow growing organisms. These human induced changes outpace natural change and increase the variability in abundance and genetic variability. Selection for single sex (usually males in crab fisheries) skews sex ratios and favors smaller mates with lower fecundity. Selection for season can cause shifts in migration and spawning time, leading to mismatches. Selection for space tends to increase harvest on other locations, especially since harvests usually target populations closest to ports, favoring those farther away.

Species (such as crabs) with long life spans use a "bet-hedging" strategy to spread risk over time. This can involve either protracted spawning periods (as for king crabs, Stevens, 2006; Stevens & Swiney 2007), or highly variable, episodic recruitment.

In contrast, an approach incorporating "Balanced harvest" would include harvesting all stocks, sex, sizes, species that can be used by humans. This should incorporate a progressive "Tax policy", i.e. the most productive segments (usually juveniles) should sustain higher exploitation. The ideal goal is to harvest all utilizable components in proportion to their abundance. In this situation bycatch may be beneficial, if sustainable. Management goals for balanced harvest should include:

- diversify selection to a wider variety of S's
- eliminate bycatch
- mimic natural predation
- include harvest refugia (MPAs)

**Responses to proposed management measures:**

1) **Permits** – no opinion, as it has <u>little biological impact</u>.
2) **Approved trap design:** What is it? Is there an optimal design for Jonah crab? Or does this need to be developed and tested? What is adequate escape port size?
3) **Minimum size.** There should be <u>no minimum size limit</u>
   a) **Rationale**: Fishery management has long-term evolutionary consequences on populations. Minimum legal size (MLS) can cause a genetic shift to smaller spawners

that is not easily reversible (e.g. silversides *Menidia menidia*, Conover and Munch 2002). Harvesting the smallest individuals allows the larger, faster growing, more productive individuals to reproduce, the OPPOSITE effect produced by most fishery management plans.

b) Removal of large male crabs skews sex ratios which can lead to sperm limitation, reduced mating frequency, and reduced fecundity in the Lithodid crabs *Paralithodes brevipes* and *Hapalogaster dentata* (Wada, et al., 2000; Sato and Goshima, 2006; Sato, et al., 2007). When M:F sex ratios are low, male snow crabs *Chionoecetes opilio* conserve (Sainte-Marie and Sevigny, 1999), so that individual females may not receive enough to successfully fertilize a clutch (Rondeau and Sainte-Marie, 2001). In model studies, removing the largest fish almost always produces population declines, whereas unselective fishing produced higher yields and biomass than selective fishing (Garcia et al., 2012). Increasing the size range of retained crabs produces a more natural distribution of ages, with fewer small crabs and more large ones, which would ultimately contribute to greater reproductive potential.

c) Fecundity of crabs is proportional to biomass or length$^3$ such that animals that are 2X larger produce 10x more eggs, i.e. one old spawner is worth 10 young ones. Therefore it is beneficial to retain the large spawners. A broad spectrum of age classes also confers stability, but fishing removes older, larger age groups, leading to age truncation (Berkeley et al. 2004). Diverse age structure functions as a storage mechanism for reproductive capacity, i.e. a "seed bank" that can stabilize recruitment via differences in timing or survival of larvae. A broad spectrum of hatch timing also reduces the effect of match-mismatch with larval food sources. Studies on fish have shown that larval survival is highly correlated with parent age, and less with size; in other words, older fish produce better larval survival, and faster growth (though this has not yet been verified for crabs).

d) Size limits are not compatible with Ecosystem Based Fishery Management (EBFM), which requires diversity in both size and genetic variability. Most fishery populations have episodic "sweepstakes" recruitment events (Berkeley et al, 2004) in which only a small portion of recruits survive with less genetic variability than the spawners, leading to a highly variable gene pool, and possible localized overfishing. Generally speaking, large populations (of fish or crabs) are not "unit stocks", but instead are comprised of many small breeding subpopulations.

e) Use of MLS causes large numbers of crabs to be discarded, leading to unknown amounts of discard mortality. Abandoning the use of MLS would eliminate discarding and its associated mortality completely.

4) **Size tolerance** – NA. see #3
5) **Crab part retention** – option 2. <u>Only whole crabs should be sold</u>.
   a) **Rationale**: Claw removal is harmful and can kill the crab if not done properly. Claws of most crabs grow back very slowly. It may require 3-4 molts to reform a full size claw, which may take longer than the remaining lifespan of the crab. Crab landings cannot be determined from claw counts because some crabs may only have one claw. In contrast, landing of whole crabs allow measurement and counting of landed crabs.
6) Prohibition on **egg-bearing females** - There should be <u>no prohibition of female catch</u>.
   a) **Rationale**: Fisheries targeting a single sex (as in male-only crab fisheries) not only cause skewed sex ratios, but can exacerbate population fluctuations. Strong stock-recruitment

relationships generally do not exist for invertebrate species, which are largely r- selected. In most years, they produce orders of magnitude more larvae than needed; survival and recruitment are largely a function of environmental variability. In some species (snow crabs), cannibalism of recruits by previous year classes causes wide population fluctuations. Removing excess females when populations are large can help dampen such cycles, and does not significantly reduce reproductive potential over the long term. Therefore, allowing removal of females (when populations are adequate) can be an effective management tool, is consistent with EBFM and systems management principles, and helps to maintain size diversity as well as sex ratios.

7) **Incidental bycatch limit** – option 2 (limit)
8) **Recreational fishery:** is not large enough to require management.

**IN ADDITION, the FMP needs to include the following** (with justifications given below)

1) Marine protected areas for no crab fishing. These should include any area where crabs aggregate for spawning, with a radius of 5 n. mi., and should constitute large portions (10 to 50%) of each NOAA statistical area. e.g. the southern 20% of every stat area.
   a) MPAs have been shown to improve conservation for species with short-distance dispersal, and sedentary or sessile adults, such as crabs (Botsford, 2005). MPAs protect a portion of stock from removal, protect some habitat from damage, and produce an increase in density, biomass, and size of individuals, which leads to increased reproduction and recruitment. In the US, MPAs have only been implemented as a last resort for overfished stocks, rather than as a preventive measure. MPAs of any size provide a buffer against variable recruitment because there is always an unexploited portion of stock (Pitchford et al., 2007).
   b) Many fishers target their activities on mating/spawning areas because they believe that males will concentrate there, but data argue the opposite. Tanner crab (*C. bairdi*) mating aggregations cover only a few hectares but may include virtually all reproductive females within a 15 km radius (Stevens, et al., 1994), yet density of male Tanner crabs does not increase significantly during spawning aggregations (Stevens, et al., 2000). This suggests that those males within a few km of the reproductive females will likely contribute virtually all of the sperm needed for reproduction, while those more than a few km away are entirely superfluous, in which case. Thus, fishing activities should be prohibited within close proximity to known spawning areas. Concentrated fisheries leave relatively few spawning individuals located in ideal locations (Loher and Armstrong, 2005). For these reasons, management should incorporate location-specific sex/size ratios into harvest strategies, with the goal of refocusing harvest on non-reproductive animals in order to reduce fishery impacts on population reproduction.

2) Total Allowable catch – even though there is no stock assessment, there must be a TAC set at some experimental level that can be adjusted. An ideal level would be 5% of estimated total stock biomass.
   a) A primary rule for sustainable management is "Stay within natural ranges of variation" (Fowler, 1999). This applies directly to exploitation rates. In marine ecosystems, most predators consume only about 5% of prey biomass. Predators that consume much more or less than that risk extinction of themselves or their prey. Human exploitation occurs at levels that are well beyond several standard deviations of the mean, removing much more of the available biomass than any natural predator, until the fishery becomes

unsustainable. The only way to fish sustainably is to behave like a natural predator, and limit removals to about 5% of total biomass.

b) Therefore a maximum total allowable catch (TAC) must be set experimentally, monitored closely to determine if it is appropriate, and adjusted annually as needed.

3) Rights-based management – Fishers should be given rights-based access to the fishery that can be traded or sold. These are usually set based on the most recent 3 years of fishing history, which can be negotiated. Examples include Individual Transferable Quotas (ITQs).
   a) The Jonah crab fishery is an S-fishery (Orensanz et al., 2005) defined as 1) small-scale in terms of geographic range, size of vessels, and income; 2) involve sedentary species; and 3) are highly spatially structured in small metapopulations linked by larval drift. Most crab species are associated with specific habitats, and do not move large distances from where they settle, thus constitute S-fisheries. Management of S-Fisheries must incorporate incentives for fishers (ownership of rights) that coincide with their needs and those of society, allowing them to make their own decisions about how and when to harvest.
   b) One of the most important keys to sustainable, successful fisheries is the use of rights-based access (Hilborn, 2007). In the traditional "Olympic" style fishery, all fishers compete against each other such that one fisher's gain is another's loss. It emphasizes the "Tragedy of the commons" (Hardin, 1968) wherein a common property resource (crab/fish populations) is decimated because it is not in the individual interest of any single user to conserve it, because any conservation (i.e. fish not removed) may be removed by another user. In contrast, individual or group rights to a fishery (such as ITQs or cooperatives) give each user the right to exploit a specific quantity or location without competition from another user, resulting in improved efficiency through lower costs and higher product quality.
   c) Virtually all large fisheries in the US have incorporated rights-based management, including Pacific halibut (ITQs), Bering Sea crab (Crab rationalization), Bering Sea Pollock, and North Atlantic groundfish (Sector management). Therefore it would be prudent to incorporate rights into the FMP for Jonah crab now, as transition from an Olympic to a rights-based scheme at a later time would involve much greater social and economic cost.

**Additional Research Needs**

Biological research needs for Jonah crabs include: Fecundity; size and AGE at maturity; abundance; habitats used by different age groups; molting frequency, and growth rates.

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## Amy Hirrlinger

**From:** Comments
**Sent:** Tuesday, July 21, 2015 1:31 PM
**To:** Amy Hirrlinger
**Cc:** Megan Ware
**Subject:** FW: Johan Crab

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**From:** James Violet [mailto:jvjv89@msn.com]
**Sent:** Monday, July 20, 2015 7:33 PM
**To:** Comments
**Subject:** Johan Crab

I would like to make the following comments regarding the Interstate Fishery Plan for Johan Crab:

My name is James Violet. I fish the 70' F/V Excalibur out of Newport R.I. I have targeted Johan Crab for the past 20 years and land around 750,000 lbs per year. I fish
in Area 3. I suggest the following:

1. Do not allow the landing of female Johan crab.

2. Link a Johan Crab permit with a area specific Lobster permit.

3. A 4.5" carapace minimum size limit.

4. Mandatory reporting of Johan crab landings.

5. Conduct a comprehensive review of Johan Crab biological life cycle , get some nmfs on board observer reports and combine this with trip reports ,so educated decisions can be made before making any unnessasary burdensome regulations.

Regards,

James Violet
F/V Excalibur
401-714-3433

**From:** Jim Dawson [mailto:jimdawson1@verizon.net]
**Sent:** Wednesday, July 22, 2015 5:53 PM
**To:** Megan Ware
**Cc:** ROB OREILLY; Joe Cimino
**Subject:** Jonah crab

Megan, just spoke with Tony, she said to write a comment so you had it for official records:

I am advising the board to officially recognize my style of trapping, the baited drop trap, which has proven history, yet was TOTALLY ignored and forgotten about pertaining to lobster on an oversight by them to do so.

My gear is MUCH different than a habitat trap. Yes, it catches lobster as well as every other thing that will go into a trap. For some unknown reason, certainly NOT rational, the board feels as though they can eliminate historical users? ANYONE who lands a product historically, should have a right to land that product using the methodology they have been. For my case, it is the baited drop trap. For the official record, everything will be cleared up if there is an incidental catch provision made for "any trap capable of catching Jonah crab". I am formally requesting that a gear code be added at the time of the issuance for the Jonah crab permit for the "baited drop trap" such as BPTF on the VTR.

Currently, as it stands, it appears as though the board decided to have no incidental catch for lobster except for a select few sea bass fishermen. What right does the board feel they have to exclude ANY individual with historical landings? I cannot allow for such actions to ever take place in the future as consistency MUST be followed and should not vary nor waiver for only a select few.

Jim Dawson.

158 Shattuck Way
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www.littlebaylobster.com

July 24, 2015

Atlantic States Marine Fisheries Commission
1050 North Highland St., Suite 200 A-N
Arlington, VA 22201

Via email to Megan Ware, mware@asmfc.org

**Subject: Comments on the Jonah Crab FMP**

Dear Commissioners:

I operate a fleet of 11 offshore lobster boats, each of which harvests Jonah crab in addition to lobsters. I support the implementation of basic conservation measures for Jonah crabs, but I have not seen any evidence to support the statement in the draft FMP that: "Sustainable management practices will maximize economic benefits to affected communities and ensure that these sources of income will remain stable far into the future."

I suggest that language be inserted into the FMP that the current high abundance of Jonah crabs may simply not be sustainable, based on the historical record and the experience in Canada. Data provided in the FMP indicates that long-term average abundance of Jonah crabs over the period from 1982 to 2012 has fluctuated by a factor of 8 in the NMFS Spring Trawl Survey in SNE and by a factor of 2 in the Fall Trawl Survey. Recent years have been among the highest for Jonah crab abundance. Fishermen also report that the abundance of Jonah crabs is higher now than it has ever been, even during the 1980s when fishing pressure was much less. Considering this history, we should expect Jonah crab abundance to decline in the future, regardless of management. The FMP should anticipate that decline and prepare everyone involved for that eventuality. The combined lobster and crab fisheries should not be thrown into regulatory turmoil if the Jonah crab resource declines.

The FMP states that: "In Canada, the Jonah crab has quickly showed downward trends (both fishery independent and dependent data) after increased fishing pressure, indicating it may be important for managers to respond quickly to increases in harvest in US waters (see section 1.1.1 statement of the problem). Jonah crab fisheries have developed in Atlantic Canada and despite a prohibition on landing females, minimum legal sizes, and a TAC, several LFAs in Canada have reported declining catch of Jonah crabs (Pezzack et al. 2011, Robichaud et al. 2006). An assessment of offshore Canadian Jonah crabs in LFA 41 determined fishing effort was not sustainable despite a prohibition on landing females, a minimum size set at the size of maturity (128 mm), and a TAC of

920 tons (Pezzack et al. 2011). CPUE of the commercial fishery and fisheries independent data both showed declining trends after only a few years of directed fishing (Pezzack et al. 2011)."

I don't necessarily agree that fishing pressure caused the decline in Jonah crab abundance in Canada, but there has been a dramatic decline. If we combine the historical abundance data in New England with the experience in Canada, we can be quite sure that the FMP now under consideration will not ensure that income from the Jonah crab fishery will remain stable far into the future. It is misleading for the FMP to give fishermen, processors, marketers, and the public the impression that the FMP can ensure a stable Jonah crab resource and fishery.

My comments on the management options in the draft FMP are enumerated below, with further explanation after the summary of my positions:

**Fishery Dependent Data Collection**

I support Option 3, 100% dealer and harvester reporting with port/sea sampling conducted by state and federal agencies. The data collection system should distinguish between crabs caught incidental to lobster fishing and crabs caught in a directed crab fishery. Otherwise catch per unit effort data loses much of its usefulness.

**Permitting Requirements**

I support Option 5 for permitting requirements – directed fishing for Jonah crabs should only be allowed with tagged lobster traps fished from a vessel with a lobster permit. In consideration of the facts that the Jonah crab fishery developed as an integral part of the lobster fishery and that we expect the abundance of Jonah crabs to decline in the future, it would be a mistake to allow a separate and distinct fishery for Jonah crabs to develop during this period of high abundance. This is particularly true now that the states and the federal government will implement an FMP with prescribed legal requirements. I would support a provision that would issue "Jonah Crab Only" permits to vessels that can prove a history of fishing Jonah crabs without a lobster permit. I would suggest that proof of landings of 25,000 pounds or more of Jonah crab in 2014 or 2015 should be required to obtain a Jonah Crab Only permit, provided that the first landing of Jonah crabs occurred prior to the control date of June 2, 2015.

**Minimum Size**

I support a minimum size of 5.25" with a one-quarter-inch tolerance. No violations would be issued for crabs larger than 5". Crabs smaller than 5" would be illegal to possess and would be subject to seizure. I would expect normal officer's discretion to prevail in cases where an occasional small crab might be found in the catch but there was obviously no intent to violate the law. My rationale for supporting a minimum size is explained further following my summary positions.

**Escape Vents**

In my comments on the Jonah Crab Public Information Document, I proposed an escape vent requirement for crab traps or combination crab and lobster traps. Although the draft FMP does not propose an escape vent requirement, I continue to believe that an escape vent designed to allow undersize crabs to escape would improve the sustainability of the crab fishery. The escape vent regulations in the lobster FMP are not sufficient to minimize the retention of undersize crabs. At present, Area 3 lobster traps are allowed to have two circular so-called "crab vents" of 2 11/16" diameter. These vents are actually lobster vents and they retain all but the smallest crabs. In the interests of both crab and lobster conservation, a combination of circular and rectangular escape vents could be installed in traps that would meet the requirements of the lobster management plan through the circular vents and also utilize rectangular escape vents to minimize the retention of undersize crabs. The choice of a size for a crab escape vent does not need to be complicated with selectivity studies that will still require a subjective judgment as to the appropriate escape/retention percentage. Crab morphology is such that an effective escape vent need only match either the minimum shell width chosen for the minimum size, or the corresponding shell length. The relationship between shell width and shell length can easily be determined by measuring some reasonable number of crabs.

**Retention of Crab Parts**

Any allowance for crab part retention should be limited to permit holders who can demonstrate that they have a significant history of landing crab parts. Only those permit holders should be given a letter of authorization to land crab parts. A letter of authorization to land crab parts should not be transferable.

**Retention of Egg-bearing Females**

I support Option 1, no prohibition on retention of egg-bearing females as long as some minimum size is adopted. Any of the proposed minimum sizes will provide sufficient protection for egg-bearing and non-egg-bearing females. We should not put unnecessary regulations on the books; they simply create more work for enforcement officers and more potential problems for fishermen. If a prohibition on retention of egg-bearing or non-egg-bearing females is adopted with a tolerance, all of the problems associated with statistically valid sampling of large catches will come into play.

**Incidental Catch Allowance**

I support Option 2 for the possession limit for the bycatch limit for non-lobster-trap gear (200 pounds per day up to a max of 500 pounds per trip).

I support Option 2 for the recreational fishery possession limit (50 (whole crabs) or 100 claw limit per person).

**Rationale for Positions**

**Permitting Requirements**

As I noted in my summary comments, the Jonah Crab resource appears to be at a historical high point, with additional large year-classes having been detected in the Gulf of Maine. The currently permitted lobster traps have more than enough fishing power to harvest any conceivable Jonah crab catch. Additional traps and boats attracted to a transitory Jonah crab abundance would create over-capacity and overcapitalization. New England and the rest of the Nation have paid the price for overcapacity and overcapitalization in the New England fisheries and don't need to repeat that mistake with the Jonah crab fishery.

Whereas trap fishing gear is considered a threat to large whales, putting more trap fishing gear with more vertical lines in the ocean would clearly increase that threat, even if the gear complies with the Atlantic Large Whale Take Reduction Plan. The Plan relies on a combination of limited trap numbers and gear modifications to reduce the threat of injury to whales. The offshore lobster fishery has reduced total trap numbers for the dual purpose of conserving lobsters and reducing the risk of entangling whales. That effort would be compromised by allowing more traps into the crab fishery.

**Minimum Size**

I support a 5.25" minimum size with a one-quarter-inch tolerance for many reasons other than the preference of the market for large crabs. Most importantly, in a fishery without direct control over the exploitation rate, a minimum size provides essential protection for the portion of the population below that minimum size. We do not have the scientific ability to set a total allowable catch (TAC) for Jonah crab and we will not for the foreseeable future. Without a minimum size, there would be nothing to prevent the crab resource from being decimated. Although the market currently limits the size of crabs that can be sold in quantity, we all know that new markets develop all the time. Experience with other New England fisheries demonstrates the folly of relying on markets to provide protection to valuable resources as their scarcity increases.

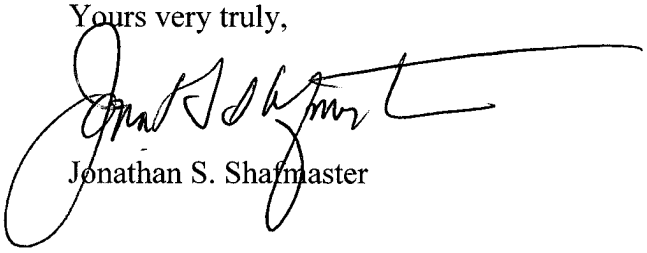
A minimum size is also necessary to obtain the greatest possible yield per recruit from the Jonah crab resource. Jonah crabs grow in length and in weight with each molt. The same number of crabs harvested would provide more weight and more value if they are allowed to grow. Conversely, a smaller minimum size will decrease the total yield from the Jonah crab resource. A minimum size is necessary to prevent "growth overfishing."

We know from experience in the lobster fishery that fishermen become dependent on animals near the minimum size as the resource is fished down. When that happens it is very hard to raise the minimum size because fishermen will temporarily lose a large percentage of their catch. Setting a larger minimum size when the resource is abundant and the size distribution is good has much less of an impact on fishermen.

The question of a tolerance applied to the minimum size has received a lot of attention. I support the concept of a tolerance. Most recently, there have been suggestions made to set the minimum size below the desired minimum size for the purpose of creating a tolerance. I think this would be a mistake, because the concept of a tolerance is lost and the minimum size becomes the size that is set. I suggest setting the minimum size at the desired size, and creating a tolerance of one-quarter-inch below the minimum size. In that way the desired minimum size remains the focus of the regulation and the tolerance does what it is intended to do, rather than lowering the minimum size.

Thank you for your consideration of my comments.

Yours very truly,



Jonathan S. Shafmaster

JSS/vo
1A861

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FAX

TO: MEAGAN WARE FROM: JOE

Fax: 703-842-0741 Pages: 3

Phone: Date: 7-22-15

Re:

COMMENTS OF THE JONAH CRAB FISHERY

July 22,2015

To Whom it may Concern:

As a trap fisherman in the southern mid atlantic region, the jonah crab fishery and its future future management are of the utmost importance to my ability to make a living. In this region historically the jonah is valued for its claws, and as such took a page out of the Fla. Stone crab fishery book with the snapping of the claw versus landing the whole crab. Aside from the lack of a whole crab market until recently, there are many other reasons for this practice. As snowbirds retreat down south in the winter and acquire a taste for the stone crab claws, the jonah claws are gaining in popularity for their size, taste, and reasonable price. Another reason for taking the claws is a matter of volume, with local vessels often packing with ice. In that respect, it is much easier to pack 15 – 20 pounds of claws that 50 crabs may yield than it would be to pack 70 lb. Of live crab those 50 crabs would weigh. From my experience the jonahs would need a vast amount of ice to completely bury the crab or mortality would be high. Once a crab dies it begins to spoil and is no longer fit to eat. Shelf water temperatures run higher locally than on the New England coast, and with smaller vessel sizes it would be less practical to hold the crabs in live wells.

On top of that the thought of conservation enters into the equation, with the species being put back in the water a larger number would to survive to reproduce versus the whole crab being landed which could eventually deplete the stocks.

The jonah has always been a bycatch of the lobster fishery, and targeting the the crab by a new fishery of fisherman should be discouraged in the future. Before any proposals are put in place to manage the fishery, a better handle on the stock assessments is needed. Because one region is depleting its stocks is no reason to give those vessels a free ticket to access other regions in search of the last crab. The last

thing needed in a management plan is to change the fishing practices that have taken place historically.

Sincerely Yours,

Joe Kelly, Capt. \ owner,

F. V. Toots #240278

Joe Kelly 7-22-15

Atlantic States Marine Fisheries Commission

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# MEMORANDUM

July 24, 2015

**To: American Lobster Management Board**

**From: Law Enforcement Committee**

**RE: Draft Jonah Crab Fishery Management Plan Comments**

The Law Enforcement Committee (LEC) of the Atlantic States Marine Fisheries Commission held a teleconference call on Thursday, July 23rd to review and consider input on draft management options for the draft Jonah Crab Fishery Management Plan. The following members participated in the call:
Jon Cornish (ME)
Honnie Gordon (USFWS)
Wayne Hettenbach (USDOJ)
Katie Moore (USCG)
Pat Moran (MA)
Eric Provencher (NOAA)
Rama Shuster (FL)
Jason Snellbaker (NJ)
Carter Whitten (NC)

Additionally, prior to the conference call, a subcommittee of the LEC participated in a field visit to the dockside and processing operations for Jonah crab in New Bedford, MA. The subcommittee was made up of:
Kurt Blanchard (RI)
Jon Cornish (ME)
Pat Moran (MA)
Eric Provencher (NOAA)

The following comments and recommendations are made on behalf of the LEC.

**Commercial Fisheries Management Measures**
***Issue 1: Permits***
**The LEC recommends Option 5 (Participation only for those persons or vessels that already hold a lobster permit).**
Enforcement is well established for the current American lobster fishery and we feel that, rather than implementing an entirely new permit, trap, and participant system for Jonah crab, enforcement would best be served by continuing to manage this fishery under the existing lobster fishery. It would potentially eliminate the proliferation of traps and lines for a different fishery and the management of a new set of permit-holders, with the inherent complications that would be likely to ensue. It has been our observation that the current lobster fishery successfully uses lobster traps to harvest Jonah crabs in large quantities and enforcement would be easily

incorporated into existing, established enforcement protocols and platforms for the lobster fishery.

The LEC discussed the possible need and advantage of being able to assess the extent of the Jonah crab fishery, and to the extent an endorsement attached to lobster or other gear permits would aid that assessment, we do not see a problem with implementing such an endorsement.

***Issue 2: Minimum Size***
**The LEC recommends Option 5 (4.75" minimum size).**
Based on our observations and information from industry and biological experts, this size limit seems optimal, particularly in that it would obviate the need for a minimum size tolerance, or a tolerance for the number of female crabs.

***Issue 3: Commercial minimum size tolerance***
**The LEC recommends Option 1 (No tolerance for undersize crabs).**
In general, size or numeric tolerances introduce a serious enforcement complication that appears unnecessary for this fishery if an optimal minimum size limit is selected. In large part we recommend the 4.75-inch minimum size because we understand it would accommodate the bulk of the currently harvested crabs, and would match up well with marketable sizes. Tolerances are notoriously difficult to enforce in the field. For example, a large off-load may require a team of officers to check. Courts have also ruled that limited sampling of a catch may be inadequate for purposes of prosecution. In this particular fishery, once crabs are off-loaded at processing sites, or are being transported in commerce, the otherwise reasonable amount of sorting, separating, and re-batching of crabs would make any effective enforcement of a size tolerance impossible. In short, a size tolerance would reduce the amount of effective enforcement that may be brought to bear.

The LEC also discussed the value of clearly marking containers coming off of vessels to facilitate identification of catch once it enters a processing site or dealer facility. Because of the potential for immediate separation or sorting of a vessel's catch, such identification would provide a level of protection for both the fisherman and the dealer in the event of enforcement inspections.

***Issue 4: Crab Part Retention***
**The LEC recommends Option 2 (only whole crabs may be retained and sold).**
Introducing an option to retain parts or remove claws will complicate effective enforcement of a minimum-size standard, and introduces an opportunity to move undersized crabs through the system. Adding an additional measurement standard for claws, such as a count per pound or something similar, will greatly complicate enforcement requirements to monitor and inspect fishing.

***Issue 5: Prohibition on Retention of Egg-Bearing Females***
**The LEC recommends Option 2 (Egg-bearing females may not be retained).**
We do not support a tolerance for the reasons spelled out under Issue 3. Additionally, it will be possible to enforce a prohibition on egg-bearing females because female crabs and egg-bearing females are relatively easy to identify in the field.

***Issue 6: Incidental Bycatch limit for non-trap gear***
**The LEC recommends Option 2 (200 pounds per day up to a max of 500 pounds per trip)**
We believe a strict bycatch limit is consistent with our recommendation to establish the Jonah crab fishery within the structure and permit system of the American lobster fishery.

**Recreational Fisheries Management Measures**
***Issue 1: Possession limits***
**The LEC recommends a third option requiring a minimum size limit**
Apart from a 50-whole-crab limit, the LEC recommends that the same whole-crab minimum size limit apply to recreational harvest as is established for commercial harvest. We do not recommend allowing possession of parts or claws if that is not allowed for the commercial fishery. We believe this recommendation is consistent with efforts to establish a minimum size limit that fully protects egg-bearing females. It eliminates confusion and ambiguity about whether undersized crabs were caught commercially or recreationally. In both Maine and Massachusetts, the same size limit is applied to both commercially and recreationally harvested lobsters and has served well for that fishery. We believe it would be equally effective for the Jonah crab fishery.

***Issue 2: Prohibition on Retention of Egg-Bearing Females***
**The LEC recommends Option 2: Egg-bearing females may not be retained.**
We make this recommendation consistent with our previous comments regarding the commercial management measures addressing egg-bearing females.

The LEC greatly appreciates the opportunity to provide enforcement input and advice regarding the development of a fishery management plan for Jonah crab.

# Atlantic States Marine Fisheries Commission

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# MEMORANDUM

July 22, 2015

**To: American Lobster Management Board**

**From: Jonah Crab Advisory Panel**

**RE: Advisory Panel Recommendations on Draft Jonah Crab FMP**

The Advisory Panel (AP) met in person on July 22, 2015 in Providence, Rhode Island to comment on the Draft Jonah Crab Fishery Management Plan. Below is a summary of their meeting. One AP member, David Spencer, was not able to attend the meeting but submitted comments which can be found on page 3.

*Advisory Panel Attendees*
Todd Richard Ellis (NH) commercial
Jan Horecky (MA) commercial
William Purtell (MA) commercial
Brian Thibeault (RI) commercial
*Staff*
Megan Ware, FMP Coordinator

*Other Attendees*
Jeff Mercer (RI DEM)
John Williams
Dick Allen (Little Bay Lobster)
Grant Moore (F/V Director)
Bob Glenn (MA DMF)
David Borden (Commissioner)

**3.4.1 Fishery Dependent Data Collection**

- AP members were in favor of harvester and dealer reporting along with port and sea sampling (Option 3). While a specific level of harvester reporting was not discussed, the AP members did note that their states require 100% harvester reporting and they support the continuation of this practice.

**4.1 Commercial Fishery Permits**

- The AP members were in consensus that the best option is the one which ties participation in the Jonah Crab fishery to the lobster permit, or requires an incidental permit (Option 5). Comments on this option included:
    - Tying the Jonah crab fishery to the lobster fishery caps effort to those with a lobster license
    - Option 5 prevents the proliferation of traps. If traps get added through the creation of a separate Jonah crab fishery, this could prompt further trap reductions in the lobster fishery according to the Large Whale Take Reduction Plan

**4.1 Commercial Fishery Minimum Size and Tolerance**

- Minimum size and tolerance received the most discussion at the meeting. The AP members felt these two issues could not be discussed separately and are therefore presented together. A consensus was not reached on these issues and the various opinions are presented below.

- One member was in favor of a 4.75" minimum size and tolerance (either 5% or 10%). He noted that tolerance is particularly important in the infancy of the management plan.
- Another AP member favored a 4.75" minimum size, citing the 5" market standard. He did not support a tolerance because he questioned its enforceability.
- The third AP member in attendance favored a 4.5" minimum size with no tolerance. The 4.5" was presented as a starting point so that, if adjustments are made in the future, the fishery isn't pigeon hold into a minimum size that provides no leeway.
- Finally, there was also support for a 4.5" minimum size with a 5% tolerance. This option was said to provide flexibility for future changes in market demand (ie: if a market for females develops).

**4.1 Commercial Fishery Crab Part Retention**

- AP members did not favor either of the options currently presented in the Draft FMP and, instead, proposed a third option which maintains the status quo. This alternative option would allow those who currently participate in the claw fishery to continue to fish and would institute a maximum claw count to cap effort in this portion of the fishery. Some of the AP members felt that if a minimum size is instituted in the whole crab fishery, there should be some cap in the claw fishery.

**4.1 Commercial Fishery Retention of Egg-Bearing Females**

- All AP members in attendance were in favor of a prohibition on the retention of egg-bearing females (Option 2) to protect the spawning stock.

**4.1 Bycatch Limit for Non-Trap Gear**

- The AP was in consensus that there should be a bycatch limit (Option 2); however, instead of a weight limit, the AP suggested a count limit. A specific limit proposed was 200 crabs per day or 500 crabs per trip. The AP supported ASMFC using a three day trip to calculate a bycatch limit (rather than a five day trip).

**4.2. Recreational Possession Limit**

- All AP members in attendance supported a recreational possession limit (Option 2). The AP suggested that the limit read as 50 whole crabs and not include the 100 claw limit.

**4.2 Recreational Retention of Egg-Bearing Females**

- There was consensus that there should be a prohibition on the retention of egg-bearing females (Option 2) in the recreational fishery.

**4.3.3 *De Minimis* Criteria**

- The AP did not have any comments on how *de minimis* criteria should be set.

*The following comments are from Joan Crab AP member David Spencer. He was unable to attend the meeting but asked to submit comments on the Jonah Crab FMP.*

The following are my comments on the AP positions for the Jonah Crab FMP.

3.4.1 Fishery Dependent Data Collection
I agree with the AP. I would also add that there should be an industry data collection fleet in place that adequately covers the federal waters portion of the resource. State waters only sampling is not even remotely reflective of the resource.

4.1 Commercial Fishery Permits
I agree with the AP. Continued open access is unacceptable and a stand-alone limited access program would be nearly impossible to achieve and have it be meaningful, not to mention that it would take many years to achieve.

4.1 Commercial Fishery Minimum Size and Tolerance
I support a 5" minimum size with a 5% tolerance. The vast majority of crabs presently landed go to the processors who for the most part require a 5" minimum. If we are instituting a management plan that hopes to achieve some conservational benefit, why would the minimum size be set lower than is the current practice by the majority of the fleet? We need to take a precautionary approach rather than an approach where industry postures for the lowest level that they can get away with. Tolerance is a critical part of this management plan.

4.1 Commercial Fishery Crab Part Retention
I do not support the continuation of crab part retention. I fear that this could undermine the minimum size portion of the document.

4.1 Commercial Fishery Retention of egg bearing females
I agree with AP

4.1 BY-Catch Limit for Non Trap Gear
I agree with AP. However, I don't have strong feelings on either a count or weight option.

4.2 Recreational Limit
I agree with the AP

4.2 Recreational Retention of Egg Bearing Females.
I agree with AP

4.3.3 De Minimis Criteria
States requesting for De Minimis should not be exempted from minimum size requirements and tying the lobster permit to the harvesting of Jonah crab.

Thank you for the opportunity to comment. I apologize for not attending the meeting.
David Spencer

# Commonwealth of Massachusetts

## Division of Marine Fisheries

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**Charles D. Baker**
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**Karyn E. Polito**
*Lieutenant Governor*
**Matthew A. Beaton**
*Secretary*
**George N. Peterson, Jr.**
*Commissioner*
**Mary-Lee King**
*Deputy Commissioner*


July 27, 2015

To the ASMFC Lobster Management Board,

The Massachusetts Division of Marine Fisheries (MA DMF) began port and market sampling for Jonah crabs in 2013 after noticing a sharp increase in state landings. The rising trend in landings has continued. Massachusetts landed nearly 12 million pounds in 2014, which is more than double the landings from any year prior to 2012. Jonah crabs are now one of the ten most valuable fisheries in the state.

The MA DMF port and market sampling program has conducted 11 trips opportunistically since November, 2013. We collect data on Jonah crab carapace width, sex, egg status, and statistical area of catch. We have measured a total of 9,416 crabs, 93.1% of crabs are over five inches, and 98.5% are over 4.75 inches. Only 25 females (0.3% of sample) have been found, and only one of those had eggs. We have observed a recent decline in the median size of crabs and an increase in the number of crabs below five inches. We are unsure if this decrease in size is due to fishing pressure removing larger individuals, changes in market demand, or seasonal variation. Canadian Jonah crab scientists have documented a decrease in the size of crabs during the spring in their commercial Jonah crab fishery. Most of our 2015 sampling was conducted in the spring which may explain the decrease in size.

The most accepted published paper on Jonah crab maturity was conducted off of Nova Scotia, Canada (Moriyasu et al. 2002). This paper estimated the size at 50% male maturity at 127.6 mm (5”) and was the basis of the Canadian Department of Fisheries and Oceans (DFO) selecting a 130 mm minimum size. Despite a minimum size, a prohibition on retaining females and a quota, Canadian scientists believe that “low (relative to most fisheries) fishing pressure contributed to substantial reduction in the population”, and that “any future fishery be limited by very low fishing effort” (Pezzack et al. 2011).

There are no published estimates for size at maturity for male or female Jonah crabs in Southern New England where 90% of the U.S. fishery operates, though we have recently received funding to conduct a maturity study which will be starting this year and should be completed early in 2017.

The following pages gives a brief summary of the data collected by MA DMF port and market sampling program, landings data, analysis of at-sea observer data, probabilities of detecting minimum size violations within a given tolerance range, and email correspondence with Washington, Oregon and Canadian scientists and law enforcement officials regarding the enforcement of minimum sizes and tolerances in high volume crab fisheries.


Derek Perry
Marine Fisheries Biologist- MA DMF

Robert Glenn
Chief Marine Fisheries Biologist- MA DMF
Lobster Technical Committee Chair

With contributions from
Burton Shank
Research Fishery Biologist - NOAA/NEFSC

**Table 1. Descriptive statistics from 9,416 Jonah crabs measured by the MA DMF port and market sampling program.**

| | size (mm) | size (inches) |
|---|---|---|
| average | 140.6 | 5.5 |
| median | 141 | 5.6 |
| min size | 82 | 3.2 |
| max size | 172 | 6.8 |

**Table 2. Number and percentage of females sampled from the MA DMF port and market sampling program (n=9,416).**

| | Number | % |
|---|---|---|
| Females | 25 | 0.3 |

**Table 3. Number of crabs below given size thresholds from MA DMF port and market sampling program (n=9,416).**

| | # | % |
|---|---|---|
| < 139.7mm (5.5") | 4118 | 43.7% |
| <133.35mm (5.25") | 2095 | 22.2% |
| <127mm (5") | 651 | 6.9% |
| <120.65mm (4.75") | 144 | 1.5% |
| <114.3mm (4.5") | 20 | 0.2% |
| <107.95mm (4.25") | 1 | 0.0% |
| <101.6mm (4") | 1 | 0.0% |

**Table 4. Weight of individual male Jonah crab by size derived from length-weight relationship from MA DMF Resource Assessment Trawl Survey.**

| | wt/crab (lb) |
|---|---|
| 139.7mm (5.5") | 1.08 |
| 133.35mm (5.25") | 0.93 |
| 127mm (5") | 0.81 |
| 120.65mm (4.75") | 0.70 |
| 114.3mm (4.5") | 0.59 |
| 107.95mm (4.25") | 0.50 |
| 101.6mm (4") | 0.43 |

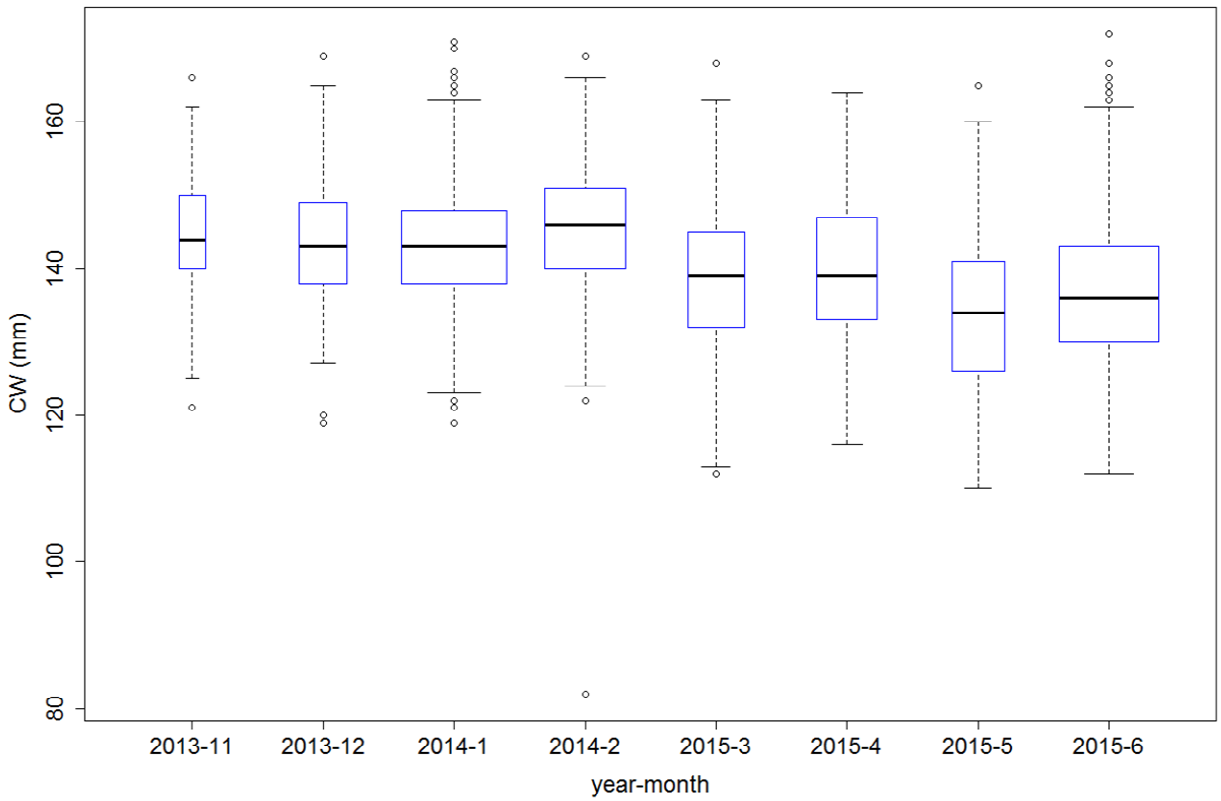


**Figure 1. Box plot of MA DMF port and market sampling program (n=9,416). Black lines are medians, blue boxes are 50% interquartile range, circles are outliers.**

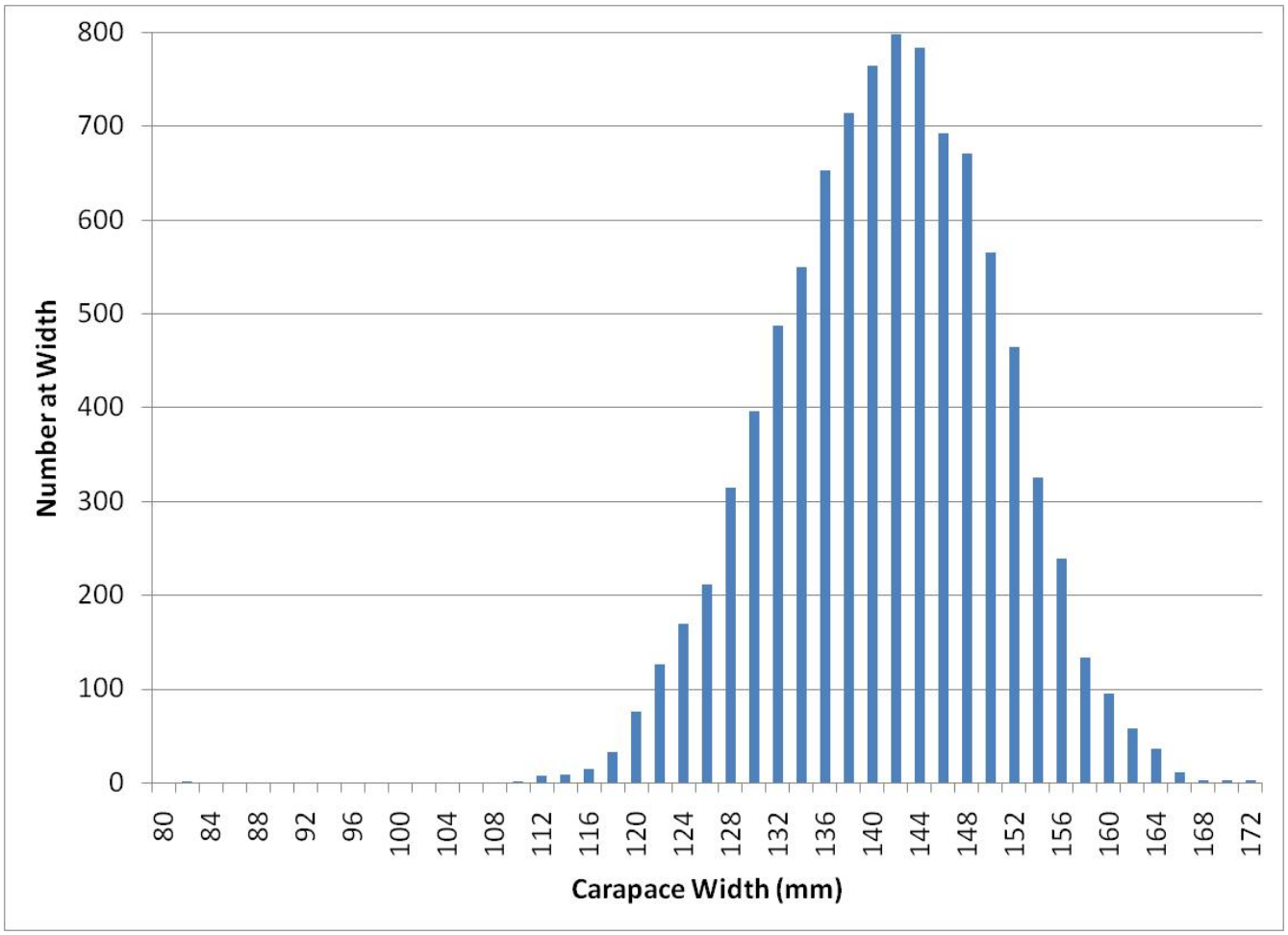


**Figure 2. Histogram of MA DMF port and market sampling data using 2mm size bins.**

**Table 5. Number of crabs below 127 mm (5") (upper table) and the number of female crabs (lower table) from MA DMF port and market sampling program in 2013-2014 and 2015.**

| | # measured | # below 127 mm | % of sample |
|---|---|---|---|
| 2013-2014 | 4833 | 38 | 0.8% |
| 2015 | 4583 | 613 | 13.4% |

| | # measured | # of females | % of sample |
|---|---|---|---|
| 2013-2014 | 4833 | 8 | 0.2% |
| 2015 | 4583 | 17 | 0.4% |

## Commercial Landings Data

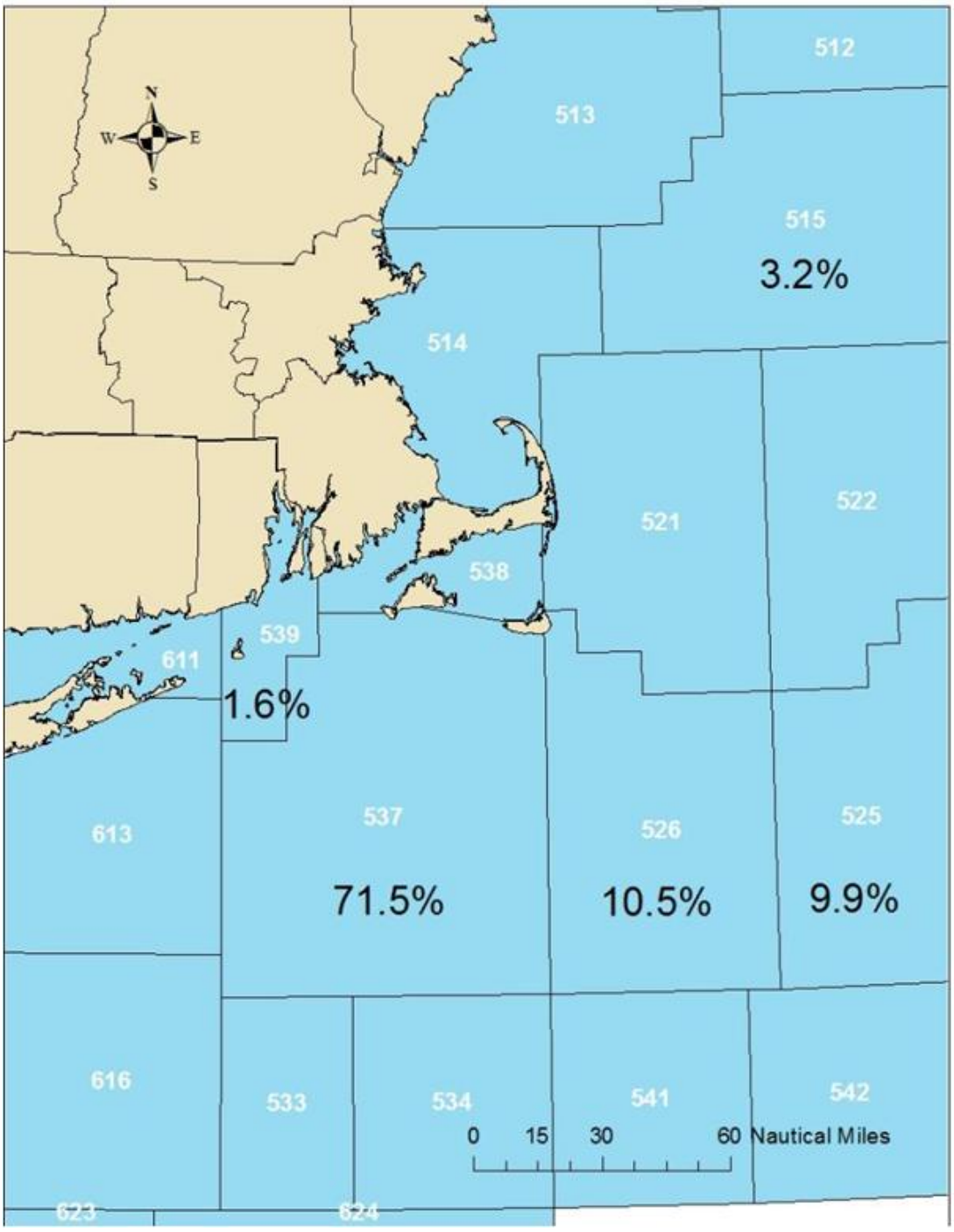


**Figure 3. 2012-2014 Massachusetts and Rhode Island Jonah crab landings by stat area from NMFS VTRs, and MA and RI trip level reporting. Areas with landings representing less than 1% are omitted.**

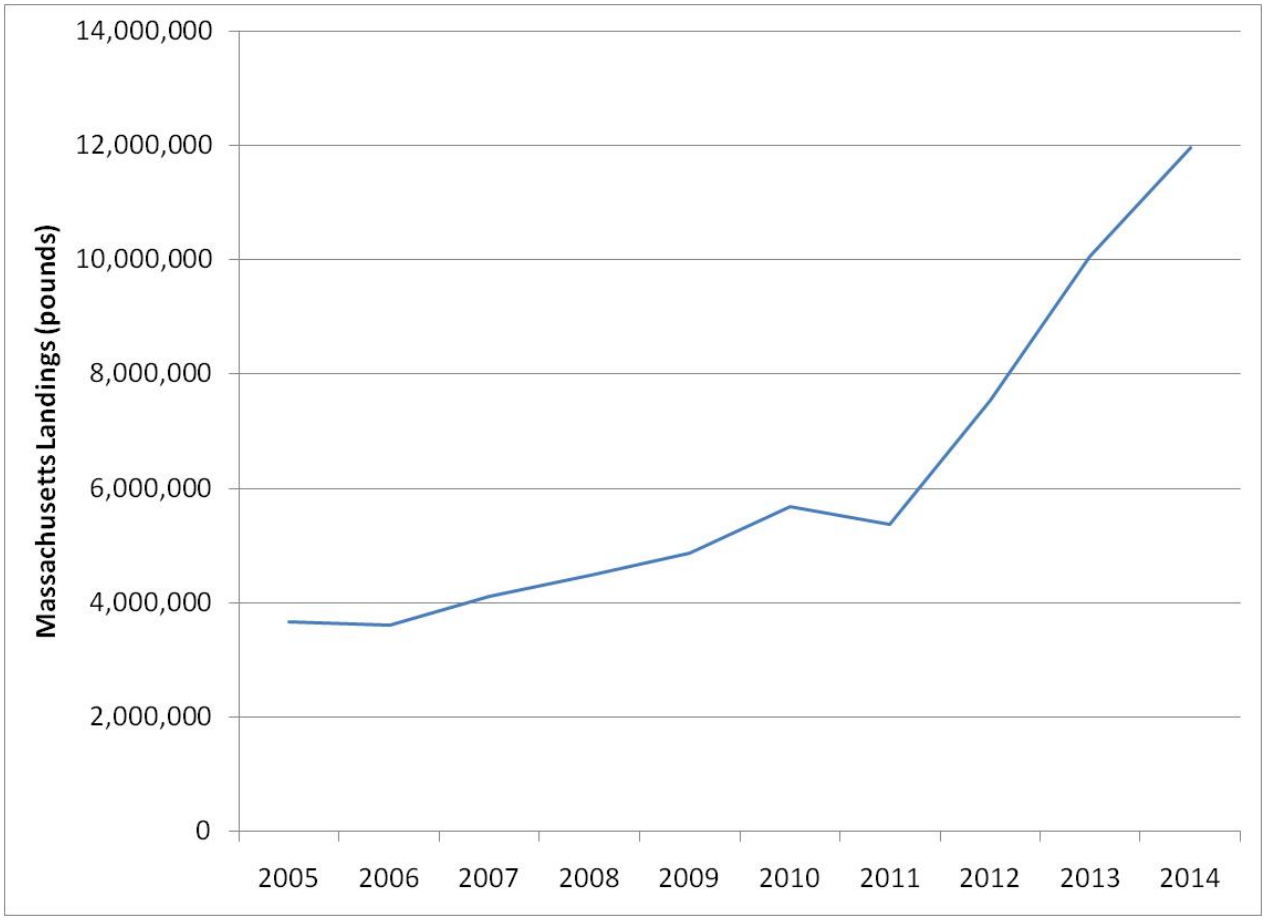


**Figure 4. Massachusetts Jonah crab landings 2005-2014 (SAFIS).**

## II. Size and sex composition of catch and landings in the Jonah crab fishery

We analyzed existing data on the size and sex composition of catch and landings in the Jonah crab fishery to examine spatial variations in size and sex compositions and current sorting and retention practices with the goal of understanding how different minimum size regulations will affect the Jonah crab population and current fishing practices. Throughout the analysis, we refer to reference carapace width values of 4.75, 5.0 and 5.25 inches as these include the center of the range of minimum sizes being considered under the draft Jonah crab FMP.

Fishery-dependent data on the Jonah crab fishery in Southern New England is unfortunately sparse as most data-collection programs have only started within the past year or have not been active recently. For this analysis, sea sampling data includes data from the NMFS Northeast Fisheries Observer Program (NEFOP) and the Commercial Fisheries Research Foundation (CFRF) Lobster Research Fleet. The NEFOP data consists of only three observed trips in offshore SNE in 2014 and 2015, with coverage in statistical areas 537 (offshore), 525, and 526. The CFRF Lobster Research Fleet is a project where lobster fishermen have been collecting data from their catch at-sea since 2013, including data on Jonah crab catches since 2014. The CFRF Jonah crab data includes ~150 samples of about 100 Jonah crabs each, collected by several lobster vessels from both inshore (537, 538, and inshore 539) and offshore (613, 616, offshore 537, 526, 525, and 561) statistical areas. Fishermen select which days to collect samples but the trawl is randomly determined within the day. The combined NEFOP / CFRF data set is not sufficient to discern many spatial patterns from seasonal cycles or vessel effects. Thus, it is hard to know if observed differences between NEFOP and CFRF Offshore data, collected in similar locations and under similar conditions, are due to processes we are unable to model or are simply due to variability and small sample sizes. However, we assumed the data are reasonably representative of the fishery for the purpose of this analysis. We also expect that this analysis can be dramatically improved within a couple years, given continued data collection. The port sampling data comes entirely from Massachusetts DMF sampling conducted within the past year, either at offload or at processers, as all NMFS port sampling was deemed inappropriate either due to its age or incorrect of spatial coverage.

Based on preliminary analysis of length composition and fishery selectivity, we determined that it was appropriate to split inshore samples from offshore samples, though greater spatial heterogeneity almost certainly exists within SNE. Under this plan, all NMFS sea sampling data and MADMF port sampling data is considered offshore while the CFRF data was split into inshore and offshore components as detailed above. Each sampling event was then further examined for minimum sample sizes and crab retention rates before being included in the analysis.

### Characterization of raw catch composition, sex ratios, and retention rates

Length compositions of the raw (unsorted) catch are different between sexes and between inshore and offshore habitats with larger crabs observed offshore (Figure 5). Males have a modal size between 125 and 130mm in the inshore while modal sizes are 130 to 135mm offshore. Inshore female modal size is similar to offshore modal size (~110 – 115mm) with a longer left tail to the distribution in the inshore. For both inshore and offshore habitats, the length compositions of the sexes clearly segregate.

The cumulative size composition of the catch for the combined sexes also differs between regions and agencies (Figure 6, Table 6). On average for NEFOP data, 9% of the catch is below 127mm (5”) but CFRF offshore and inshore have smaller distributions with 30 and 42% of the catch below 127mm respectively. Cumulative size compositions by sex also illustrate the difference in sizes between the sexes (Figure 7, Table 6). 88%, 90%, and 93% of captured females are below 5 inches for NEFOP, CFRF Inshore and CFRF Offshore respectively while only 6%, 38% and 19% of males are below 5 inches for the respective data sets. The differences in the cumulative size compositions between inshore and offshore habitats indicate that setting minimum sizes will differentially impact fishermen in the inshore vs. offshore habitats.

The proportion of the catch at size that is female decreases steeply with increasing size, approaching zero at larger sizes (Figure 8). The catch at size switches from predominantly female to predominantly male around 120, 115, and 100mm for NEFOP, CFRF Offshore and CFRF Inshore, respectively. At five inch carapace widths (127mm), the average raw catch is 15, 8, and 2% female, respectively.

We calculated model-based retention rates at-size based on whether crabs of a given size were retained or discarded. Final model structure was a binomial General Additive Model (GAM) with probability of retention estimated based on carapace width, sex, region, and agency. There are apparent differences in retention rates at size both across agencies, regions, and sexes (Figure 9). Probabilities of retention are generally high for large males with ~77%, 83% and 70% of 5-inch males being retained in the NEFOP, CFRF Offshore and CFRF Inshore data sets respectively. The

low retention rates of females for CFRF data may be an artifact of the different collection methodology as fishermen may be deciding the disposition of a crab after collecting data from it. However, the lower retention rate of females than males in the NEFOP data (77% retention for 5-inch males vs <40% retention for 5-inch females) suggest that there is some active sex-specific sorting taking place at sea.

We calculated the cumulative proportion of the raw catch that was retained at-size as the product of the cumulative length composition and the probability of retention at size. We calculated total cumulative retention both by number of individuals and by portion of the sampled weight, using length-weight relationships from MADMF. The results indicate that smaller size classes represent relatively little of the retained catch (Figure 10 and 11) and more sorting / discarding is occurring inshore than offshore. For example, of the total crabs caught, 5, 10, and 17% were both retained and at or below a 5-inch carapace for NEFOP, CFRF Offshore and CFRF Inshore, respectively. Patterns are similar but with lower values for total cumulative retention by weight due to higher retention rates for larger crabs. On average, 93, 75, and 62% of the catch by number and 94, 83 and 77% of the catch by weight were retained for NEFOP, CFRF Offshore and CFRF Inshore data sets, respectively.

We calculated mean cumulative length compositions for landed Jonah crabs using retained crabs from sea sampling and the MADMF port sampling data (Figure 12, Table 8). The percentage of the catch below reference thresholds showed geographic patterns that parallel the raw length composition data with higher proportions of smaller crabs in the inshore than offshore. On average, 23% of the landed crabs from CFRF Inshore were below a five-inch carapace while CFRF Offshore, MADMF, and NMFS averaged 12, 6, and 2% of the catch below a five-inch carapace, respectively. The samples from inshore were also more variable within the range of the reference sizes with proportions of the catch below five inches ranging from <10 to >60% among samples. While it should be noted that the ranges displayed in the figure represent both sampling variability and actual variations in size compositions, this range may be what enforcement might expect to encounter under current sorting practices, as the typical sample sizes represented here are comparable to sample sizes enforcement may take to check compliance with minimum size regulations (i.e. 50 – 200 individuals).

Table 6. Cumulative proportion of the raw catch, by number, from sea sampling data for standard reference sizes.

| | Agency / Region | Carapace Width (Inches) | | |
|---|---|---|---|---|
| | | 4.75 | 5 | 5.25 |
| Combined Sexes | NMFS | 4% | 9% | 23% |
| | CFRF Inshore | 22% | 42% | 70% |
| | CFRF Offshore | 20% | 30% | 45% |
| Females | NMFS | 71% | 88% | 98% |
| | CFRF Inshore | 89% | 90% | 90% |
| | CFRF Offshore | 86% | 93% | 95% |
| Males | NMFS | 1% | 6% | 20% |
| | CFRF Inshore | 18% | 38% | 68% |
| | CFRF Offshore | 9% | 19% | 36% |

Table 7. Proportion of raw catch-at-size that is female for reference sizes by agency and region.

| | Carapace Width (Inches) | | |
|---|---|---|---|
| Agency / Region | 4.75 | 5 | 5.25 |
| NMFS Offshore | 39% | 15% | 4% |
| CFRF Inshore | 6% | 2% | 0% |
| CFRF Offshore | 24% | 8% | 2% |

Table 8. Mean cumulative percentages of landed crabs smaller than reference sizes by agency and region.

| | Carapace Width (Inches) | | |
|---|---|---|---|
| Agency / Region | 4.75 | 5 | 5.25 |
| MADMF Offshore | 2% | 6% | 18% |
| CFRF Inshore | 2% | 23% | 62% |
| CFRF Offshore | 4% | 12% | 3% |
| NMFS Offshore | 1% | 2% | 10% |

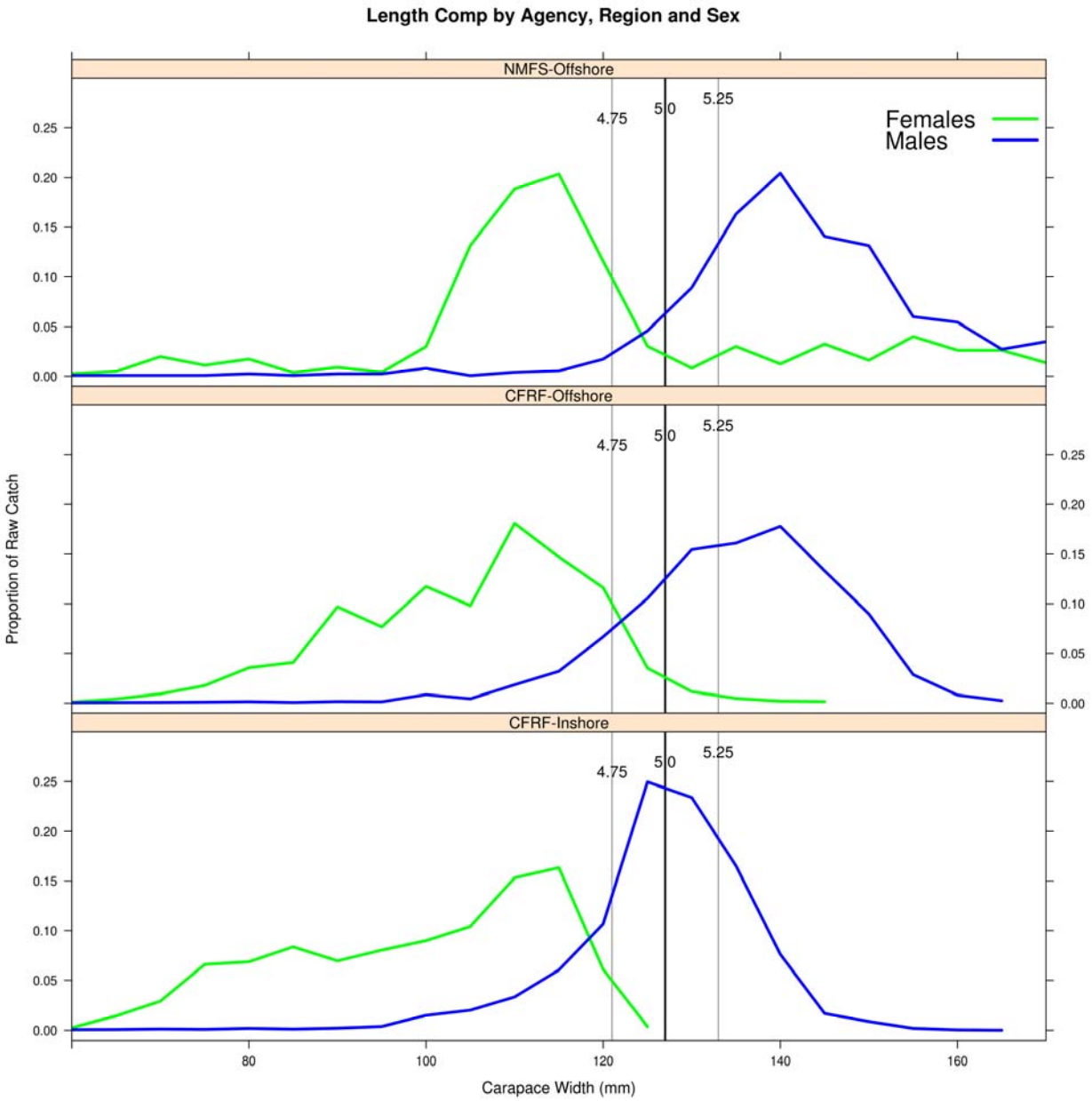


Figure 5. Proportional length composition of raw catch from sea sampling by region (inshore vs offshore) and agency. Gray and black vertical reference lines indicate the core proposed minimum sizes between 4.75 and 5.25 inches.

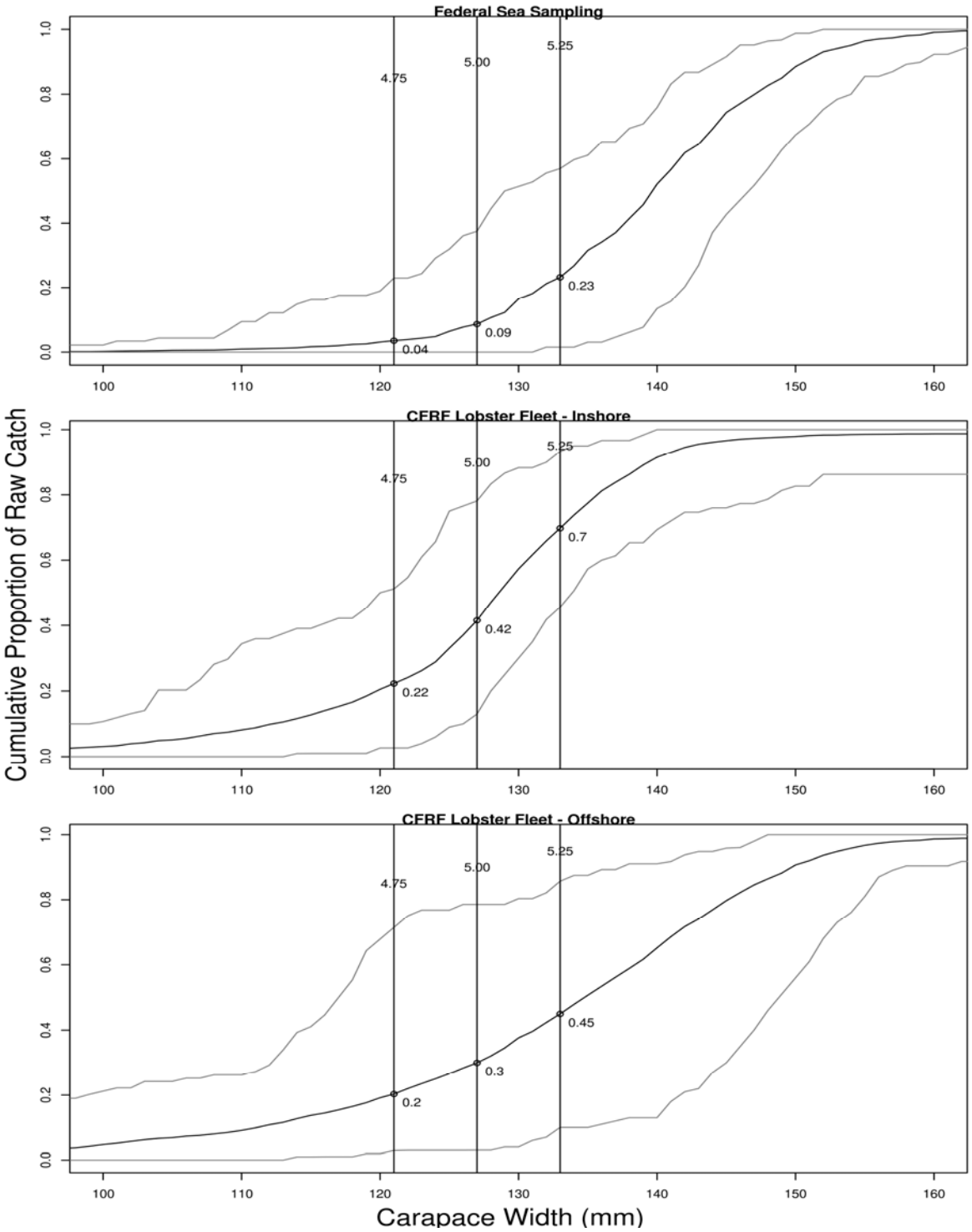


Figure 6. Cumulative proportions by number of the raw catch with sexes combined by region and agency. The central dark line indicates the mean across samples while the lighter gray lines indicate the range across trips. Marked values at the 4.75, 5, and 5.25 inch reference sizes indicate the proportion of the catch smaller than the reference values.

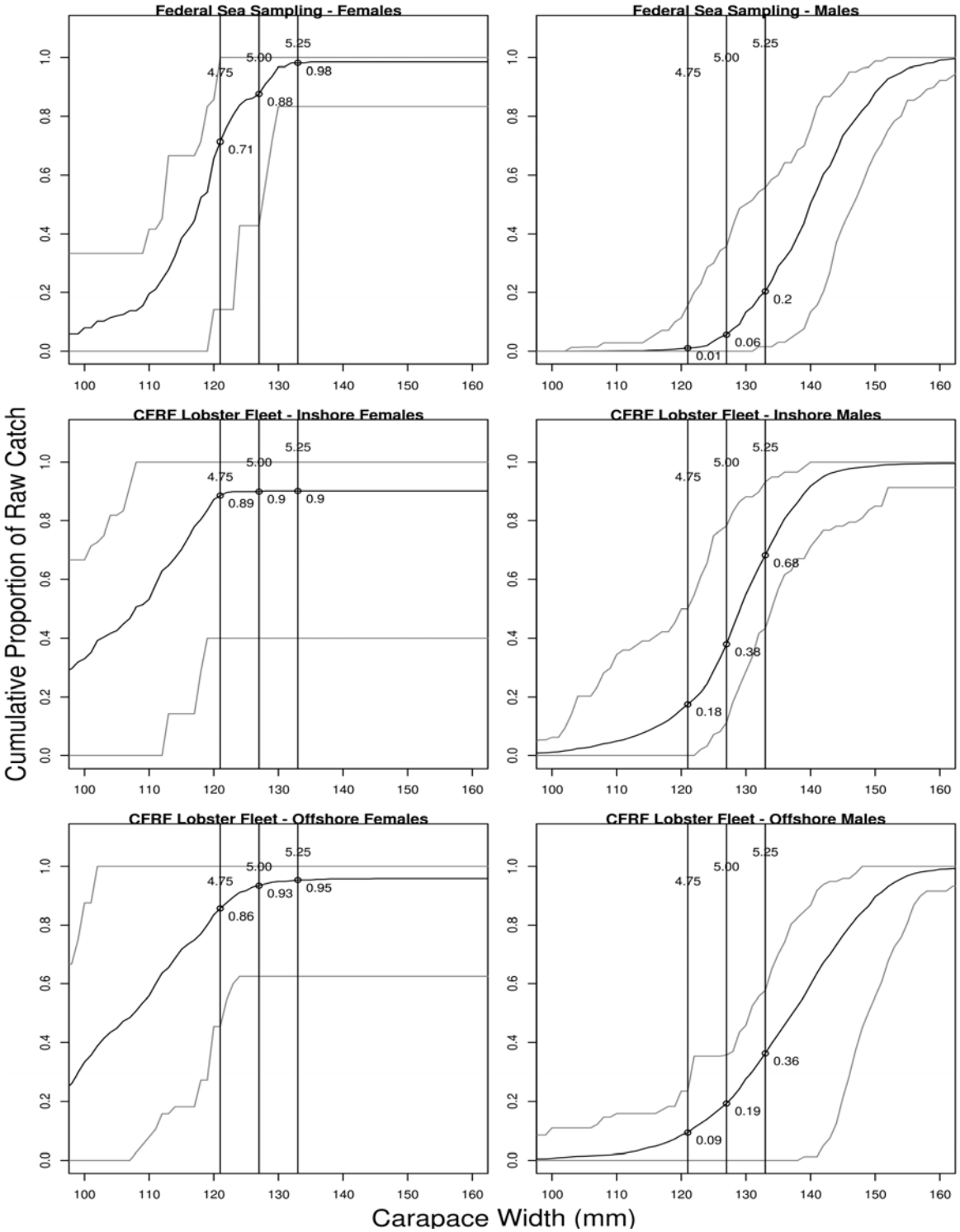


Figure 7. Cumulative proportions by number of the raw catch by sexes, region and agency. The central dark line indicates the mean across samples while the lighter gray lines indicate the range across trips. Marked values at the 4.75, 5, and 5.25 inch reference sizes indicate the proportion of the catch smaller than the reference values.

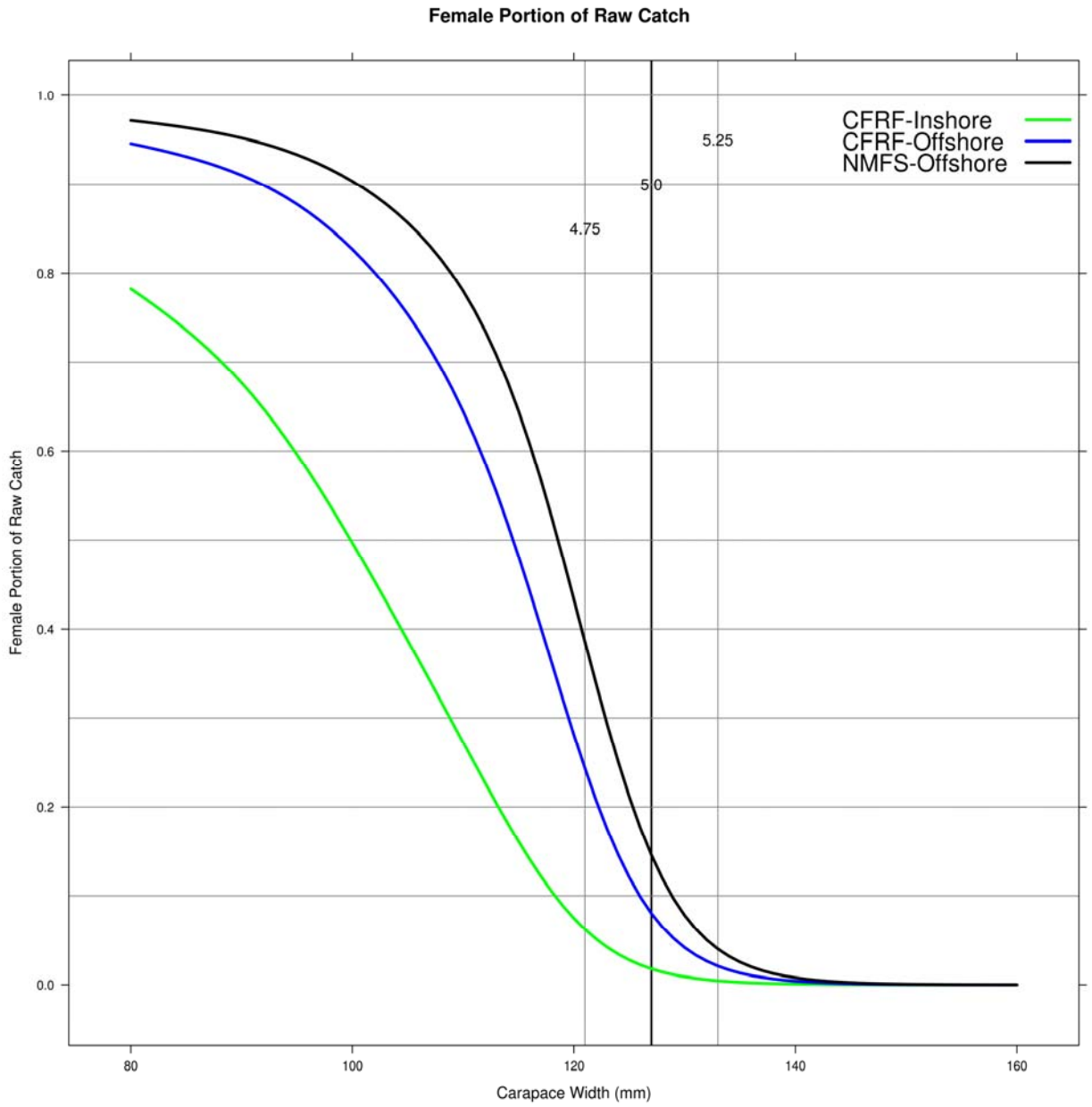


Figure 8. Mean proportion of catch at size that is female by agency and region.

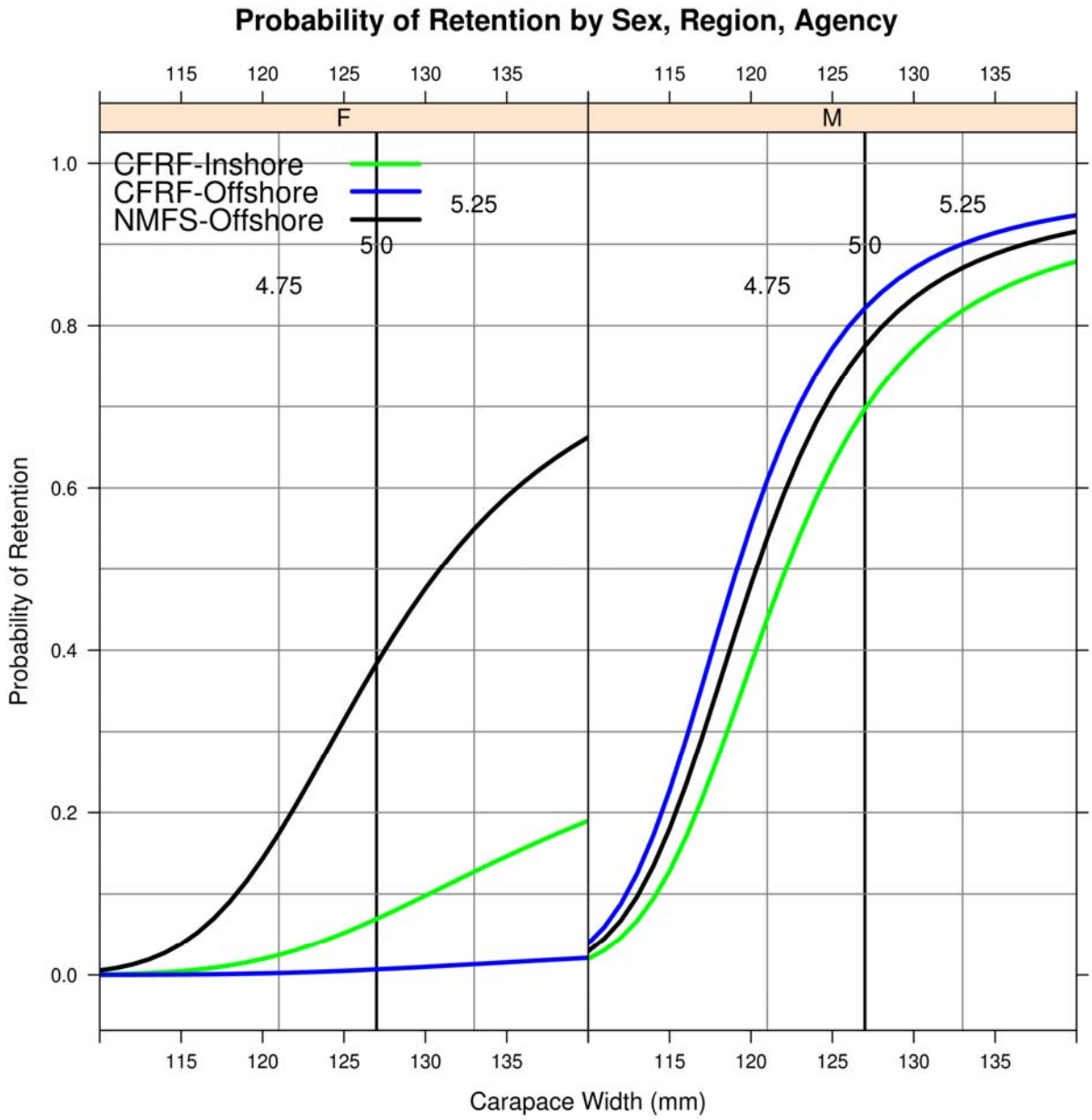


Figure 9. Model-based probability (or percent) of retention given catch at size by agency and region. The much lower retention rates of females in CFRF suggest a potential observer effect associated with the different collection methodology.

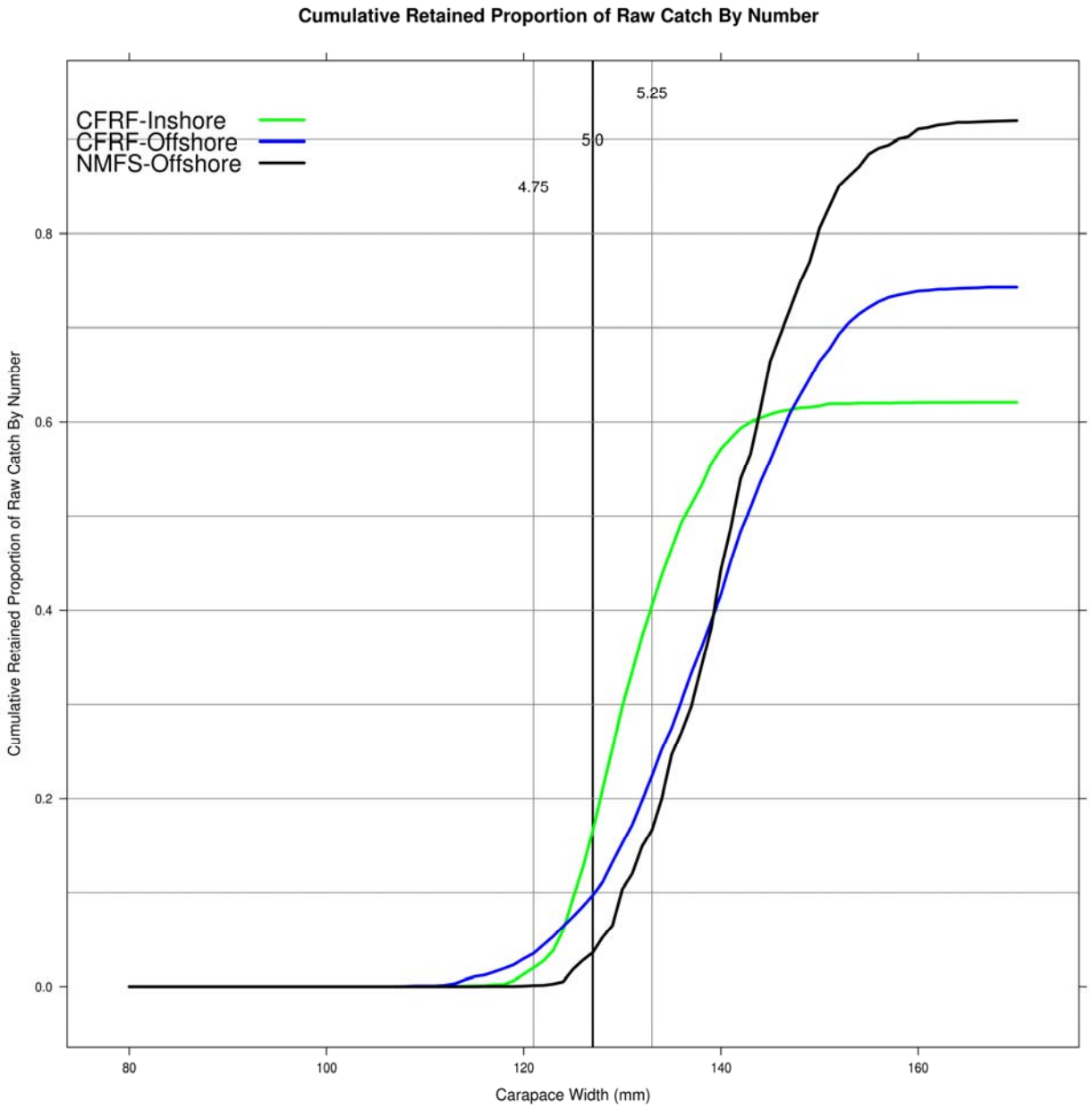


Figure 10. Cumulative retained proportion of raw (unsorted) catch at-size, by number. Values reflect the product of the cumulative catch size composition and the probability of retention.

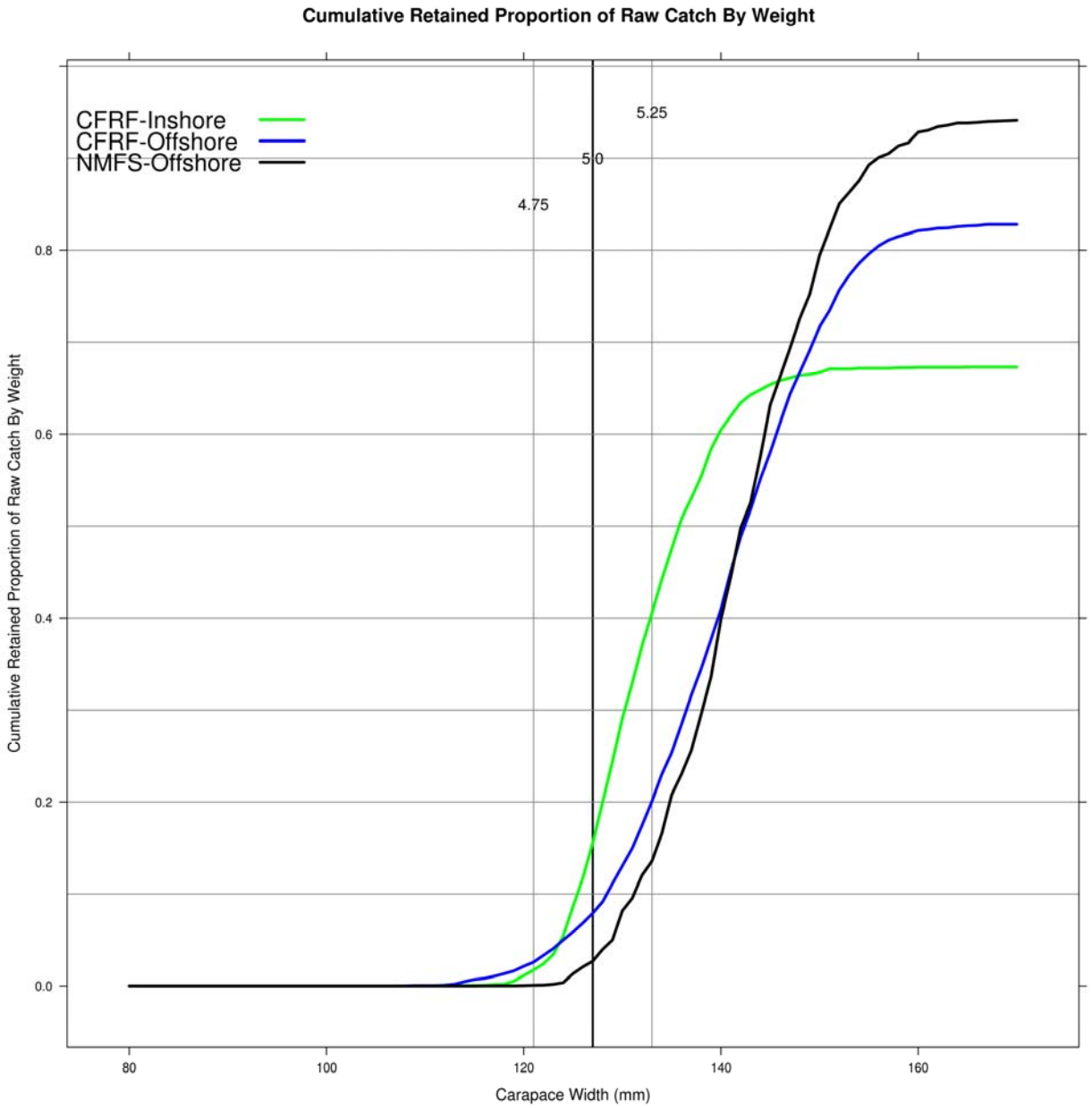


Figure 11. Cumulative retained proportion of raw (unsorted) catch at-size, by weight. Values reflect the product of the cumulative catch size composition and the probability of retention.

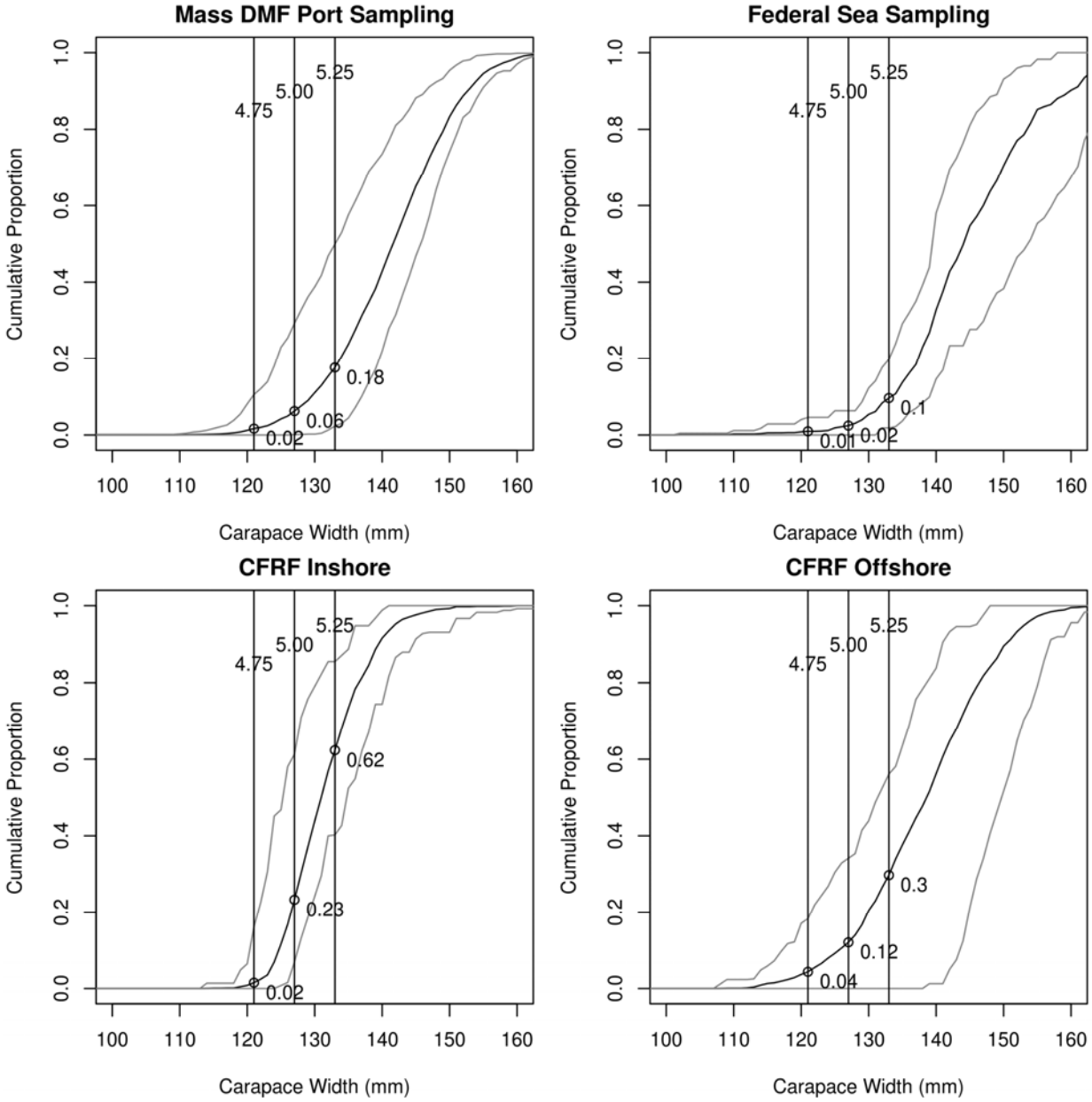


Figure 12. Cumulative size composition of landed catch by agency and region. The central dark line indicates the mean across samples while the lighter gray lines indicate the range across trips. Marked values at the 4.75, 5, and 5.25 inch reference sizes indicate the proportion of the catch smaller than the reference values.

**III. Observations on sampling for enforcement of minimum sizes and tolerances.**

Because the Jonah crab fishery is effectively a volume-based fishery, there is a discussion on implementing fishing regulations with both a minimum size and a tolerance on the minimum size. Thus, it is necessary to determine how to sample the catch at the time of offload to determine if the minimum size and tolerance is being observed. There are two types of error associated with determining if regulations are being followed:

1. False Positives: The probability of concluding that the catch is composed of too many undersized crabs when, in fact, the catch is within the tolerance.
2. False Negatives: The probability of concluding that the catch does not contain too many undersized crabs when, in fact, the catch is above the tolerance.

It should be recognized that the two types of errors act in opposition; the greater the probability of committing one type of error, the less the probability of committing the other error. Increasing sample size decreases the probability of both types of error.

Table 9 demonstrates the relationship between the two errors. On the left are the number of small crabs that would need to be observed in a catch subsample of a given sample size to determine that the catch is above a 5% tolerance given different confidence rates. On the right are the proportions of sublegal catch that could be landed that would be detected 50% of the time as undersized catch, given the sample sizes on the left. For example, if one observed 5 undersized crabs from a sample of 20, they could conclude with 99.9% confidence that the catch is undersized. However, the proportion of the landed catch that is sublegal could be as high as 27.9% and only be detected with this sampling procedure 50% of the time.

Figure 13 is a graphical depiction of the right side of Table 9 showing how the proportion of undersized catch that is detectable above the threshold decreases with increased sampling.

Table 9. Error rates associated with different sample sizes and confidence levels.

| | Number of Shorts to Determine Catch Above 5% Tolerance | | | Fishing Rate of Shorts to Detect Undersized Catch 50% of the Time | | |
|---|---|---|---|---|---|---|
| | Confidence | | | Confidence | | |
| Sample Size | 95.0% | 99.0% | 99.9% | 95.0% | 99.0% | 99.9% |
| 20 | 3 | 4 | 5 | 18.1% | 23.0% | 27.9% |
| 40 | 4 | 6 | 7 | 11.6% | 16.6% | 19.1% |
| 60 | 6 | 7 | 9 | 11.1% | 12.8% | 16.1% |
| 80 | 7 | 9 | 11 | 9.6% | 12.1% | 14.6% |
| 100 | 9 | 11 | 13 | 9.7% | 11.7% | 13.7% |
| 120 | 10 | 12 | 14 | 8.9% | 10.6% | 12.2% |
| 140 | 11 | 14 | 16 | 8.4% | 10.5% | 11.9% |
| 160 | 13 | 15 | 18 | 8.6% | 9.8% | 11.7% |
| 180 | 14 | 16 | 19 | 8.2% | 9.3% | 11.0% |
| 200 | 15 | 18 | 21 | 7.9% | 9.4% | 10.9% |
| 300 | 21 | 24 | 28 | 7.3% | 8.3% | 9.6% |
| 400 | 27 | 31 | 35 | 7.0% | 8.0% | 9.0% |
| 500 | 33 | 37 | 41 | 6.8% | 7.6% | 8.4% |
| 600 | 39 | 43 | 48 | 6.7% | 7.3% | 8.2% |
| 700 | 45 | 49 | 54 | 6.6% | 7.1% | 7.9% |
| 800 | 50 | 55 | 60 | 6.4% | 7.0% | 7.6% |
| 900 | 56 | 61 | 66 | 6.3% | 6.9% | 7.5% |
| 1000 | 62 | 67 | 73 | 6.3% | 6.8% | 7.4% |

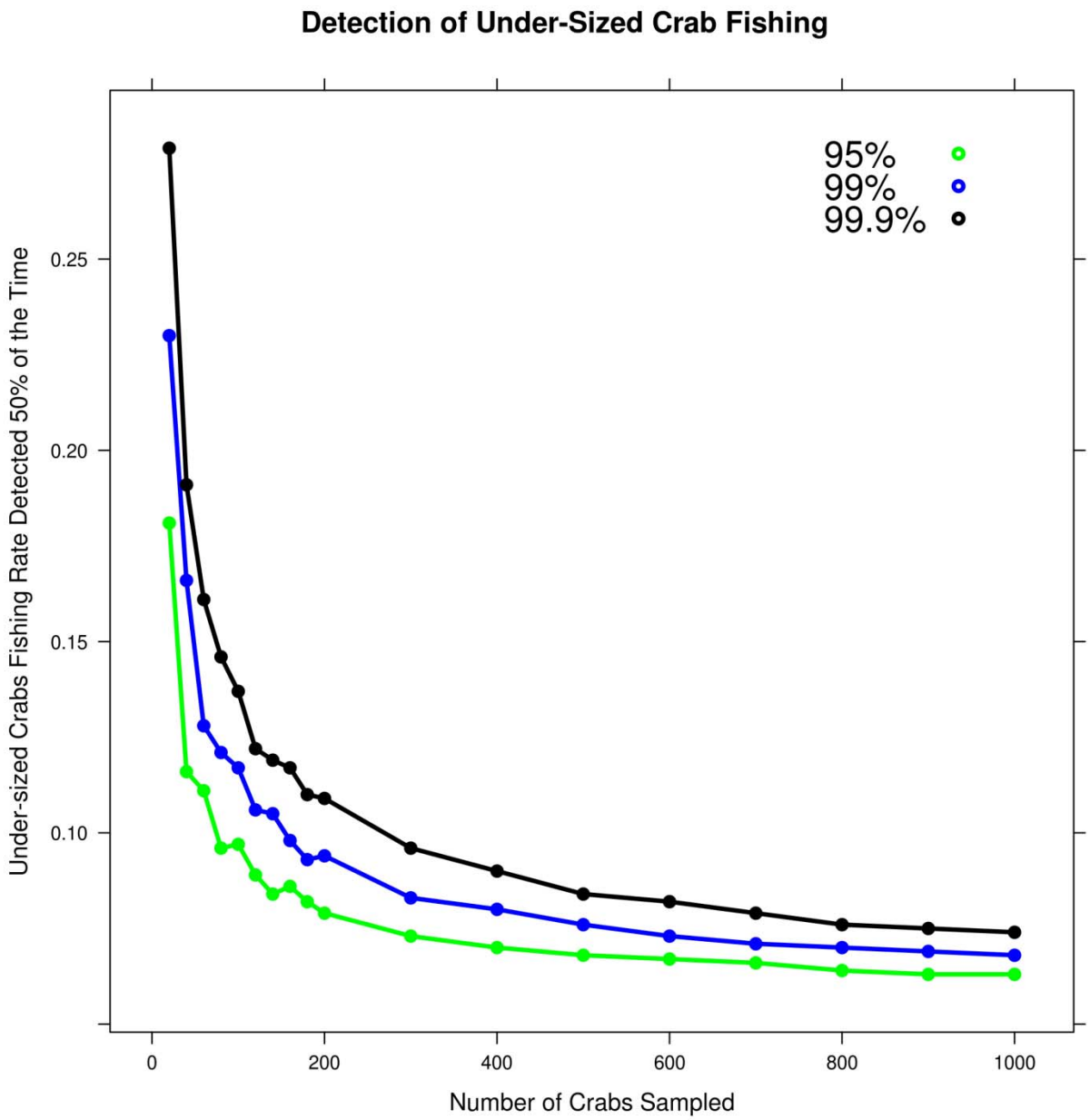


Figure 13. Graphic depiction of the relationship between sample size and detectability of under-sized catch given a 5% tolerance, a 50% false negative error rate, and different false positive error rates.

# Appendix

**Email chain #1**

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**From:** Chadwick, Dan L (DFW) [mailto:Dan.Chadwick@dfw.wa.gov]
**Sent:** Tuesday, July 21, 2015 7:12 PM
**To:** Perry, Derek (FWE)
**Cc:** Childers, Rich K (DFW); Ayres, Daniel L (DFW); Fishing Regulations (DFW); Rothaus, Don P (DFW); Chadwick, Dan L (DFW); Velasquez, Don E (DFW); WILDCOMM (DFW)
**Subject:** crab regulation

Mr. Perry,

I am writing in response to your question on minimum size for crab. Along the Washington Coast we have a large volume fishery with some vessels landing well over 50,000 pounds in a trip. At the beginning of the season (first pick) pots can have anywhere between 20 and 40 legal 6 1/4 inch Dungeness crab per pot. The fishermen dump them into a picking bin and the crew will sort out the undersize and throw the legal crab into the tank. We do not have a tolerance for undersize, however officers understand that they will encounter some undersize that inadvertently go into the tank. If a skipper jams gear down their crew's throat then the undersize volume will go up. We have boats that are very clean (literally no undersize on board) and other boats that are sloppy. If a skipper does not want undersize on board they won't have them. I have had other deckhands tell me their skipper told them, "that's what they make attorneys for" and they keep many undersize. If you put a percent tolerance in the law you will likely have fishermen that will try to catch up to that percentage. Say 2% is allowed, then some will fish up to that 2% undersize. This is a business for them right? If the law does not allow any undersize and the enforcement approach is reasonable then it all works. With all of that said, we will not get really excited about enforcement action (on the coast of Washington) unless it is 2% and over undersize for the load. Not saying we haven't issued tickets for less with repeat offenders but that is what we use for a gauge. You tie an officer's hands when a tolerance is built into the law.

If you have any questions feel free to call me.

Captain Dan Chadwick
Washington Department of Fish and Wildlife
Law Enforcement Program
Region 6

360-581-3337
Dan.Chadwick@dfw.wa.gov
WDFW Police on Facebook
Outdoor Police Beat

**Email chain #2**

---

**From:** Schwartz, Tim [mailto:tim.schwartz@state.or.us]
**Sent:** Monday, July 20, 2015 6:11 PM
**To:** Perry, Derek (FWE); CORBETT Kelly C
**Subject:** RE: crab regulations/enforcement of min size

Hello Derek,

The enforcement of minimum size, specifically allowing a % tolerance, continues to be a topic of discussion up here in Oregon. But, I believe we've quelled that, and over the past few years have been pretty consistent in our message to the industry. I've personally spoken with many captains who've said 1% undersize for the total landing amount is too much. Others have used the excuse of inexperienced deck hands, sloppy weather, etc., and therefore requested an 8% tolerance, which I believe is ridiculous.

Ours is a bit different though in that the rule states undersize are prohibited. Period! It doesn't allow for a tolerance so the enforcement of this falls back to the discretion of the trooper. No two situations are alike so we trust our troopers to enforce this, and other regulations, in a consistent manner, considering the totality of circumstances surrounding the probable violation. I've always been pretty clear to our troopers that we will not put out a tolerance % to the industry as that would result in further confusion and a willingness to further violate the laws. Additionally, how could we in good faith even consider it?

Now, when it comes time to sorting through an offload with undersize it becomes rather daunting. Depending upon the size of the offload, we may go through and measure all undersize crab, sort them into a different tote and look at the percentage when taking action. For large loads, we may just go through 5 totes and track the undersize, by percentage, against the amount contained in the toes and apply that percentage to the entire off load. We supply the percentage of undersize amount to the courts, either way, and they often times use that in determining the extent of fines, forfeitures, etc. We can also cite as a violation rather than a crime. Again, this comes down to the individual trooper and the facts surrounding the case. We may take action on an undersize amount of 1% of the load or 4% of the load depending. I personally think 5% is too much, regardless of the offload amount.

It is my opinion that an allowed percentage, by rule/law, would put too much a burden on the enforcement folks. Up here, I can go to a dealer and start sorting through totes of crab. If I see undersize in the first two layers of a crab tote, I'm going to call in some help and get down to business, going through the totes and documenting/weighing. If a tolerance was allowed by rule/law, you would see undersize throughout and would therefore have to go through all the effort( sorting, weighing) just to see if they were over the threshold. Furthermore, if there was an allowed 5% tolerance, you'd see folks pushing that and landing crab with 8, 9, 10, 11..% undersize, not to mention the targeting of them. I can imagine the enforcement folks wouldn't be too keen on having to conduct hours of work just to see if there was a violation either. I believe it's better to simply make undersize unlawful and trust your enforcement folks to provide consistent and fair enforcement.

That's my quick version anyway. Feel free to give me a call at the below number if you'd like to further discuss. Take care.

Tim

**Tim Schwartz, Lieutenant**
**Fisheries Section**
**Oregon State Police**
**Fish & Wildlife Division**
**503-791-5249**

**From:** Perry, Derek (FWE) [mailto:derek.perry@state.ma.us]
**Sent:** Monday, July 20, 2015 12:30 PM
**To:** CORBETT Kelly C
**Cc:** Schwartz, Tim
**Subject:** RE: crab regulations/enforcement of min size

Hi Kelly,

Thank you very much for your response. Our Jonah crab fishery has been virtually unregulated for a long time. While most of our fishermen are very much in favor of the FMP and a minimum size, they are also very vocal about their concerns about complying with a minimum size. I'm encouraged to hear that you have a similar volume fishery for a similar species and you do not need a tolerance.

Lt. Schwartz, I am very interested in hearing what you have to say about how the fishery is enforced, especially the minimum size. Our fishermen are pushing for a 5% tolerance which basically undermines the minimum size regulation and raises concerns regarding how our law enforcement officers will be able to sample a sufficient number of crabs per trip.

Thank you very much,

Derek Perry
Massachusetts Division of Marine Fisheries
Invertebrate Fisheries
1213 Purchase Street
New Bedford, MA 02744
phone: (508) 990-2860 ex. 148
fax: (508) 990-0449

**From:** Kelly Corbett [mailto:kelly.c.corbett@state.or.us]
**Sent:** Monday, July 20, 2015 1:55 PM
**To:** Perry, Derek (FWE)
**Cc:** SCHWARTZ Tim
**Subject:** RE: crab regulations/enforcement of min size

Good Morning Derek,

In Oregon we do not have any amount or percentage of short Dungeness crab landing allowance by regulation as you can see in our OAR 635-005-0495 minimum size requirement below. Briefly, in terms of landings, the beginning of each season in the Oregon Dungeness crab fishery can be very high volume, for some vessels even over 100,000 lbs. As the season progresses though the volume of landings decreases substantially and then we have weekly trip limits (1200lbs) for the last two months of each season. A size requirement in this fishery has been in place since the early 1900's and in its current form since 1948. I won't say we don't have any issues with minimum size compliance each year but I think these are relatively minor due to 1) the very long history of this regulation, 2) solid understanding by the majority of our industry (harvesters and buyers) the biological protection this requirement helps ensure and 3) a very active enforcement agency that addresses issues immediately when they are identified.

In Oregon our enforcement of fish and wildlife regulations is conducted by Oregon State Police Fish and Wildlife Division, which is a separate agency from ODFW, so I've have cc'd the lieutenant of fisheries, Lt. Tim Schwartz. I'm sure Tim could provide you with better insight on tolerance/officer discretion regarding the minimum size regulation.

**635-005-0495**
**Size and Sex**
(1) It is *unlawful* to take, land or possess for commercial purposes:
(a) Female Dungeness crab; or
(b) Male Dungeness crab less than 6-1/4 inches measured the shortest distance through the body of the crab from edge of shell to edge of shell from directly in front of the tenth anterolateral spine.

(2) Any undersized or female Dungeness crab taken from the Pacific Ocean must be released within 15 minutes of capture unharmed into the Pacific Ocean at the point of capture.
(3) It is *unlawful* to possess or transport Dungeness crab that have been mutilated prior to landing so that the size or sex cannot be determined.
Stat. Auth.: ORS 506.036, 506.109, 506.119 & 506.129
Stats. Implemented: ORS 506.109, 506.129 &

I hope this helps and let me know if you have any further questions.

---

**Kelly Corbett**
Commercial Crab Project Leader
Oregon Department of Fish and Wildlife I Marine Resources Progra
2040 SE Marine Science Drive I Newport, OR 97365

www.dfw.state.or.us/MRP/

541.867.0300 ex. 244
Fax 541.867.0311

**From:** Perry, Derek (FWE) [mailto:derek.perry@state.ma.us]
**Sent:** Thursday, July 16, 2015 9:07 AM
**To:** 'Kelly.C.Corbett@state.or.us'
**Subject:** crab regulations/enforcement of min size

Hi Kelly, I'm a lobster/crab biologist for the state of Massachusetts. We are in the process of coming up with a FMP for Jonah crabs (*Cancer* borealis) which will likely include a minimum size. There has been a great deal of debate centered around the enforcement of the minimum size. The fishing industry is very adamant about the need for an enforcement tolerance around any minimum size due to the volume of crabs that they are landing. Some of our fishermen are landing over 50,000 pounds on multi-day trips. How does Oregon enforce their commercial Dungeness crab minimum size? Do you have a tolerance or are the officers encouraged to use their discretion? Are your fishermen landing similar volumes of crabs/trip? Any input you could provide would be greatly appreciated.

Derek Perry
Massachusetts Division of Marine Fisheries
Invertebrate Fisheries
1213 Purchase Street
New Bedford, MA 02744
phone: (508) 990-2860 ex. 148
fax: (508) 990-0449

**Email chain #3**

---

**From:** Tremblay, John M. [John.Tremblay@dfo-mpo.gc.ca]
**Sent:** Friday, January 31, 2014 2:17 PM
**To:** Perry, Derek (FWE)
**Cc:** MacDonald@bos-mailsec-004.state.ma.us
**Subject:** RE: Jonah crabs

Hi Derek:
Interesting that the price is increasing in your area…maybe our fishermen will become more interested in the near future. I should say that the offshore lobster fishery did appear to have an effect on Jonah crab abundance. From the summary bullets of the doc I sent yesterday: "The cause of the decline in Jonah crab abundance cannot be given with certainty, but the decline detected in the areas fished suggests it is due to fishing down of the biomass present at the start of the fishery."

Carl may be able to comment on your questions about the gauge and compliance.

Regards, John

**From:** Perry, Derek (FWE) [mailto:derek.perry@state.ma.us]
**Sent:** January-31-14 2:42 PM
**To:** Tremblay, John M.
**Cc:** MacDonald@chl-mailsec-003.state.ma.us
**Subject:** RE: Jonah crabs

Hi John,

Thank you for getting back to me. It does seem like we were in Narragansett a long time ago, it was a lot warmer then!

Our market for Jonah crabs has been expanding rapidly. It is now our fifth biggest fishery in the state. The price per pound has nearly doubled in the last four years. We've been hearing from some of our fishermen that they are now having to move further offshore to catch crabs and the size of the crabs they are catching is going down, so we are concerned. It is currently an unregulated fishery. I'm hoping that we can implement a 127 mm minimum size and have a male only fishery. We have some whelk fishermen using unmarketable Jonah crabs as bait, but I don't believe we have many lobstermen using them as bait yet. Some fishermen will smash an occasional crab in the trap as bait but I don't think it is prevalent, though maybe it is. Most of the Jonah crab catch is coming from trap fishermen in Southern New England that have redirected their efforts from lobsters to Jonah crabs after the collapse of SNE lobster.

Thank you for responding and I would love to hear from Carl or anyone else who might have an idea of what the fishermen are using for a gauge, the level of compliance with the minimum size, and any insight into how the Canadian fishermen feel about having a minimum size without a percentage of sublegal tolerance.

Thank you,

Derek Perry
Massachusetts Division of Marine Fisheries
Invertebrate Fisheries
1213 Purchase Street
New Bedford, MA 02744
phone: (508) 990-2860 ex. 148
fax: (508) 990-0449

**From:** Tremblay, John M. [mailto:John.Tremblay@dfo-mpo.gc.ca]
**Sent:** Thursday, January 30, 2014 3:38 PM
**To:** Perry, Derek (FWE)
**Cc:** MacDonald@chl-mailsec-003.state.ma.us
**Subject:** RE: Jonah crabs

Hi Derek:
Good to hear from you. Seem like a while ago that I was in Narragansett.

There are several Jonah crab fisheries in the Maritimes Region (directed and bycatch). All have a 130 mm carapace width minimum and females cannot be landed. Attached is the most recent advisory report, this one for Jonah crab in the offshore lobster fishery. Jonah crab is categorized by DFO as a "secondary species" and as such has no science program directed at it. In addition the directed fisheries have had little activity for several years because of the low market price.

There is continued interest by the lobster fishery to retain Jonah as bait and in fact we are dealing with a related issue right now. One concern we have is getting accurate data on the weight of Jonah retained and used as bait. Not clear whether the logs completed by fishermen are capturing the information. We have the same challenge with rock crab, which can also be used as bait.

With regard to the minimum size regulation, I have not heard that it is a problem for fishermen, but I do not know how well it is enforced. I know there have been charges for retaining female crab in the past.

I assume there is an official gauge, but I will defer to the management side to confirm.

The landed weights you mention (4500 kg per trip) would be on the high side for most Jonah fishermen here. Assume these weights are from a trap fishery? I can see that it could be challenge to measure all the crab. The offshore lobster fishery likely landed this weight of Jonah at times but this is with bigger boats and more traps, and after several days.

These kinds of weights would not be unusual for our snow crab fishery in some years, and I am sure the size limit is observed there. This is a higher value fishery though, they can get these catches with less than 50 traps and I think there would be fewer animals to measure per unit weight.

Our fish managers are changing the species they deal with right now, but I am ccing Carl MacDonald who would have the most knowledge related to your questions.

Hope your discussions go well!

Regard, John

M. John Tremblay, Ph.D.
Research Scientist | Chercheur Scientifique
Head, Lobster Unit | Chef de l'Unité de homard
Population Ecology Division | Division de l'écologie des populations
Science Branch | Direction des Sciences
Fisheries and Oceans Canada | Pêches et Océans Canada
Bedford Institute of Oceanography | Institut océanographique de Bedford
1 Challenger Drive, Dartmouth, N.S. B2Y 4A2
John.Tremblay@dfo-mpo.gc.ca
Telephone | Téléphone +1 902 426 3986
Facsimile | Télécopieur +1 902 426 1506
Mobile | Portable +1 902 293 7787

**From:** Perry, Derek (FWE) [mailto:derek.perry@state.ma.us]
**Sent:** January-30-14 10:39 AM
**To:** Tremblay, John M.
**Subject:** Jonah crabs

Hi John,

I don't know if you remember me or not, I work for the Massachusetts Division of Marine Fisheries. We met this past October at a Commercial Fisheries Research Foundation meeting in Narragansett, RI. I'm hoping you can give me some insight into your Jonah crab fishery. We are working with a group of stakeholders trying to figure out how to best manage this resource. Our fishery is currently unregulated. One of the things we are talking about is a 5 inch minimum size, but the fishermen in the group would like to be allowed a tolerance limit of 10-15 percent of crabs under 5 inches. They believe that it would be too difficult to measure the crabs with the volume they are landing. Is this an issue in the Canadian fishery? How is compliance with your 5 inch minimum size? Is there an official gauge? What do most fishermen use to measure their catch? We have some boats that will regularly land over 4500 kg of crabs per trip. Are your boats doing a similar volume?

I appreciate any insight you can provide into your fishery.

Thank you,
Derek Perry
Massachusetts Division of Marine Fisheries
Invertebrate Fisheries
1213 Purchase Street
New Bedford, MA 02744
phone: (508) 990-2860 ex. 148
fax: (508) 990-0449

# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org


# MEMORANDUM

July 27, 2015

**To: American Lobster Management Board**

**From: Robert Glenn, American Lobster Technical Committee Chair**

**RE: TC Concerns on NMFS Observer Coverage of the Lobster Fishery**

The technical committee has concerns about some aspects of the Standardized Bycatch Reduction Methodology (SBRM) and Northeast Fisheries Observer Program (NEFOP) coverage of the Northeast Lobster fishery. Last October, at the Northeast Fisheries Management Council meeting, the discussion of cod bycatch in the lobster fishery highlighted the critical need for more information about interaction with non-target species in the lobster fishery. The discussion also illustrated the need for cooperation/coordination among stakeholders and management agencies in the collection and dissemination of fishery-dependent data. It was our understanding from that discussion, the NE Council Groundfish PDT and the ASMFC Lobster TC would be tasked to work together to assess the available groundfish bycatch data and make a plan to move forward to assure appropriate future data collection through existing state and federal observer programs, but because the NEFMC dropped this as a priority for 2015, this meeting did not occur. In the meantime, the SBRM program reprioritized their funding and NEFOP coverage to begin a large effort to characterize bycatch in the lobster fishery starting in May 2015. No attempts were made to coordinate this sampling effort with ongoing state observing programs for the lobster fishery. For 2015, SBRM calls for a total of 619 sea-days in the U.S. lobster pot fishery (Table 1).

**Table1**. Northeast Fisheries Observer Program, Seaday Schedule, April 2015 - March 2016, Version 1

| Reference # | Funding | Fishery Description | Water Body or Trip Length | Geographic Area | Total Trips |
|---|---|---|---|---|---|
| 550 | POPDY | Lobster Pot (negear 200) | na | CT | 7 |
| 551 | POPDY | Lobster Pot (negear 200) | na | MD | 3 |
| 552 | POPDY | Lobster Pot (negear 200) | na | NJ | 25 |
| 553 | POPDY | Lobster Pot (negear 200) | na | NY | 12 |
| 554 | POPDY | Lobster Pot (negear 200) | na | MA | **266** |
| 555 | POPDY | Lobster Pot (negear 200) | na | ME | **218** |
| 556 | POPDY | Lobster Pot (negear 200) | na | NH | 47 |
| 557 | POPDY | Lobster Pot (negear 200) | na | RI | 41 |

# Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org


# MEMORANDUM

Full details can be found at - http://www.nefsc.noaa.gov/fsb/SBRM/

Members of the TC met with Paul Rago (NMFS NEFSC), Susan Wigley (NMFS NEFSC), and Amy Martins (NMFS NERO) on June 10, 2015 in Woods Hole, MA, to gain a better understanding of the SBRM process and objectives. We learned that the SBRM analysis to determine the number of sea-days and to prioritize coverage is based only on federally permitted vessels that are required to fill out Vessel Trip Reports (VTR). Due to historic exemptions, the lobster fishery is unique where only vessels that hold other federal permits in addition to their federal lobster permit must submit VTRs (lobster-only federal permits do not submit VTRs).

The TC has several concerns about the SBRM process used to allocate observer sea-day coverage and about the NEFOP lobster sampling program in general. We do not feel that the proposed sampling as currently distributed is capable of generating accurate estimates of groundfish bycatch rates in the lobster fishery, nor is it capable of accurately describing catch characteristics in the lobster fishery. The major issues we see are as follows;

1. The sample frame is not a representative subsample of NE lobster fleet.
2. The regional distribution of sampling is not proportional to catch or fishing effort.
3. The observer coverage does not address poor lobster sampling resolution in offshore areas.
4. The program overlaps with existing state sampling programs.

The sampling frame for 2015/2016 NEFOP for the lobster fishery only includes federally permitted vessels that are required to submit VTR's. This population of vessels only constitutes a very small fraction of the whole fishery and is not distributed proportionally to catch or fishing effort (Figure 1). For example, in Maine, where 85% of total US lobster pounds were landed in 2013 (Figure 2), the boats submitting VTRs represented up to 6.2% of the ME landings and only up to 4.6% of the ME permits, depending on the statistical area (SA) (Table 2, Figures 3 - 5). In Massachusetts, SA 514 (the area within MA which accounts for the majority of the state's catch), 25.6% of all MA permit holders who fish in that area are required to fill out a VTR and their catch accounted for 32.8% of the total SA 514 MA landings in that year (Table 2, Figure 3, 6 & 7). In offshore areas of Massachusetts, the proportion of the total vessels required to fill out VTR's is much higher (between 62 and 100%) (Table 2). In the SBRM analysis to determine the matrix of coverage, Massachusetts warranted more trips than Maine, despite accounting for only 10% of the total lobster harvest in 2013. In this discussion, it is important to recognize that the NE lobster fishery varies spatially for effort, catch, and bycatch. The SBRM matrix distributed trips by state and quarter rather than using NMFS statistical area. NMFS statistical areas are the standard form of data collection for stock assessments and should be considered when spatially allocating trip distribution, along with effort and permits. Landings and trips for Massachusetts and Maine are heavily skewed toward inshore areas.

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The sampling frame needs to incorporate state-only permits and all federal permits to accurately characterize groundfish bycatch rates and the catch characteristics of lobster landings. By concentrating only on vessels required to submit VTRs, the SBRM ignores the vast majority of the harvest in the top producing statistical areas. Any expansion of data produced by this program to characterize bycatch or lobster harvest by the NE lobster fleet would not be representative and would be subject to major biases due to lack of adequate spatial stratification of sampling effort (based on state instead of stat area), and for not accounting for differing fleet dynamics among the different permit types. We understand that the NMFS staff from the NEFSC acknowledged some of these limitations and indicated that the groudfish bycatch estimates would not be expanded beyond the sampling population (federally permitted vessels required to fill out VTR's). However, it is our fear that in the absence of any additional data, the "best available science" will be used by assessment committees tasked with accounting for all sources of groundfish mortality and or by managers who are mandated to address all possible sources of groundfish mortality. We submit that a comprehensive approach to allocate sampling effort which uses a sampling frame that includes all permit types and accounts for spatial variation in harvest and fishing effort by statistical area would be capable of producing more robust estimates of groundfish bycatch rates.

In addition to the mismatch of fleet and sample frame, the SBRM and NEFOP coverage creates a duplication of effort and some potential conflicts with the State programs. To characterize the commercial catch of the heavily fished inshore areas, the ASMFC lobster TC relies on the fishery dependent data collected by the state commercial lobster sea sampling and landings programs. The sea sampling programs in Maine and Massachusetts have a 30 year history of working with the industry to provide accurate data on the inshore lobster catch. Maintaining a positive relationship with fishermen is paramount to the long term success of these programs. In this most recent stock assessment we completed an analysis on appropriate sampling intensity for lobster data throughout the range by statistical area. We found that most inshore areas are heavily sampled with more than enough trips to characterize the inshore lobster harvest, but the offshore areas are mostly lacking. The new 2015 NEFOP coverage of the lobster fleet is doubling that effort in already heavily sampled areas where states already have established productive relationships with the industry to collect bycatch and lobster data. The Lobster TC and state biologists are willing and able to work with NEFOP and SBRM to develop protocols to collect the necessary bycatch data in addition to lobster data. This approach would prevent duplicative sampling, allow for a more efficient distribution of NEFOP sampling coverage in under-sampled areas (offshore) AND allow for needed bycatch data collection throughout the lobster fleet which then could be expanded appropriately by all end users.

The Lobster TC recognizes that bycatch data within the lobster fishery needs to be collected. Maine's program has been collecting, at minimum, presence/ absence data on bycatch in the inshore lobster fleet since 2006. Massachusetts and New Hampshire programs have revised their protocols in 2015 to include bycatch monitoring. It is our hope that all state agencies involved

# MEMORANDUM

with lobster monitoring can work with NMFS to develop a fishery dependent sampling program that is capable of accurately characterizing groundfish bycatch rates and lobster catch characteristics of the lobster fishery.

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**Table 2.** Landings and permit information by Statistical Area for Maine and Massachusetts for 2013 (MA DMF and ME DMR).

| Stat_Area | 511 | 512 | 513 | 514 | 515 | 521 | 522 | 525 | 526 | 537 | 538 | 539 | 561 | 562 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| state | ME | ME | ME | MA | MA | MA | MA | MA | MA | MA | MA | MA | MA | MA |
| total landings (lbs) | 22,838,996 | 79,357,801 | 24,576,339 | 11,269,526 | 106,749 | 1,521,900 | 344,275 | 441,139 | 189,371 | 568,505 | 126,905 | 1,814 | 70,441 | 964,221 |
| total permits | 835 | 2224 | 1393 | 746 | 56 | 154 | 67 | 29 | 24 | 59 | 61 | 7 | 49 | 31 |
| *State-only* | *622* | *1732* | *1004* | *444* | *0* | *41* | *0* | *0* | *2* | *4* | *28* | *0* | *0* | *1* |
| *Federal (non-VTR)* | *186* | *447* | *325* | *111* | *1* | *15* | *0* | *0* | *2* | *18* | *15* | *1* | *0* | *0* |
| *Federal with VTR* | *27* | *45* | *64* | *191* | *55* | *98* | *67* | *29* | *20* | *37* | *18* | *6* | *49* | *30* |
| % of permits that are VTR | 3.2 | 2.0 | 4.6 | 25.6 | 98.2 | 63.6 | 100.0 | 100.0 | 83.3 | 62.7 | 29.5 | 85.7 | 100.0 | 96.8 |
| % of Area's landings represented by VTR holders | 6.2 | 4.7 | 2.7 | 32.8 | 100.0 | 41.1 | 100.0 | 100.0 | 100.0 | 63.7 | 22.0 | 100.0 | 100.0 | 100.0 |

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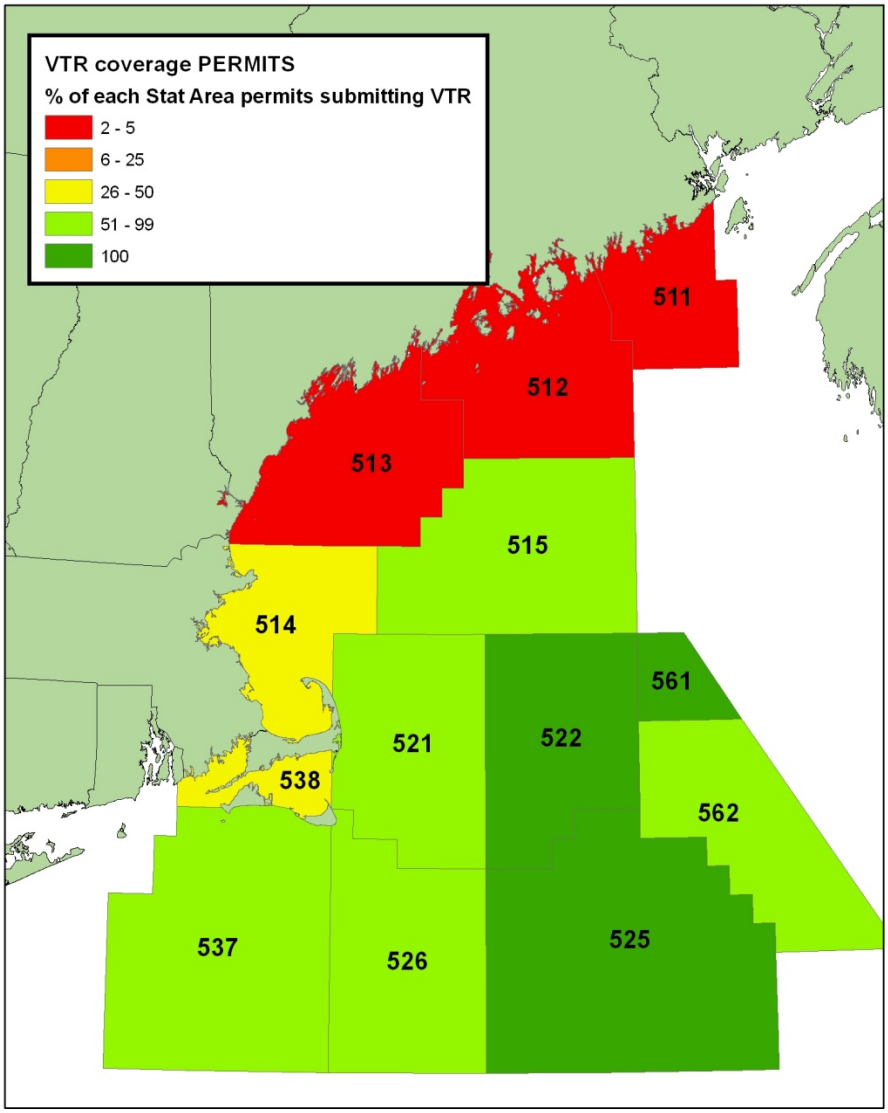


**Figure 1**. Percent of permit holders within each Statistical Area required to submit a VTR in the NE Lobster Fishery (includes only data from MA DMF and ME DMR).

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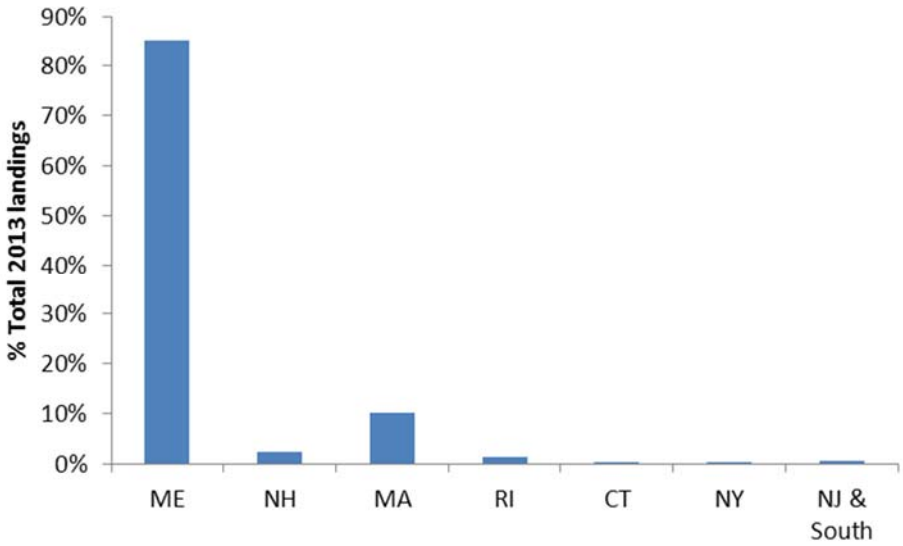


**Figure 2**. Percent of the total U.S. lobster landings that occurred in each state in 2013.

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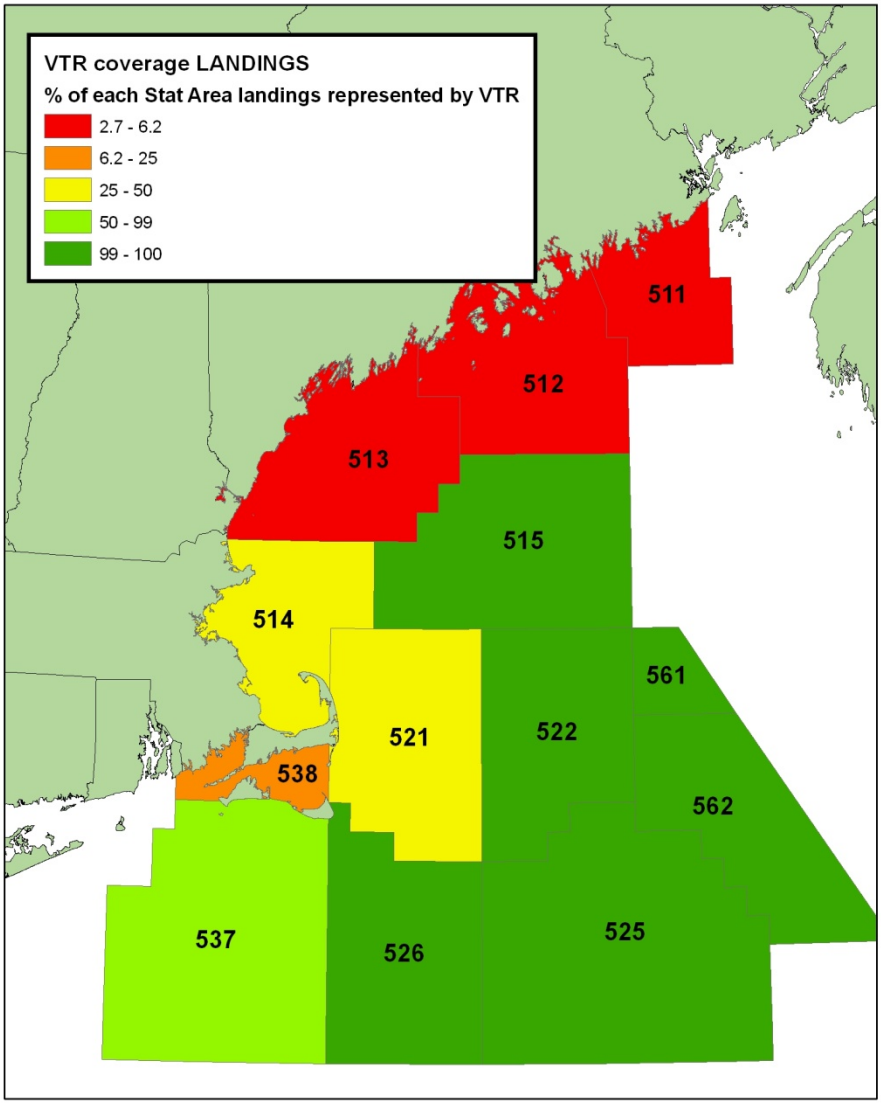


**Figure 3.** Percent of the landings within each Statistical Area represented by permit holders with VTR reporting requirements in the NE Lobster Fishery. (Includes only data from MA DMF and ME DMR).

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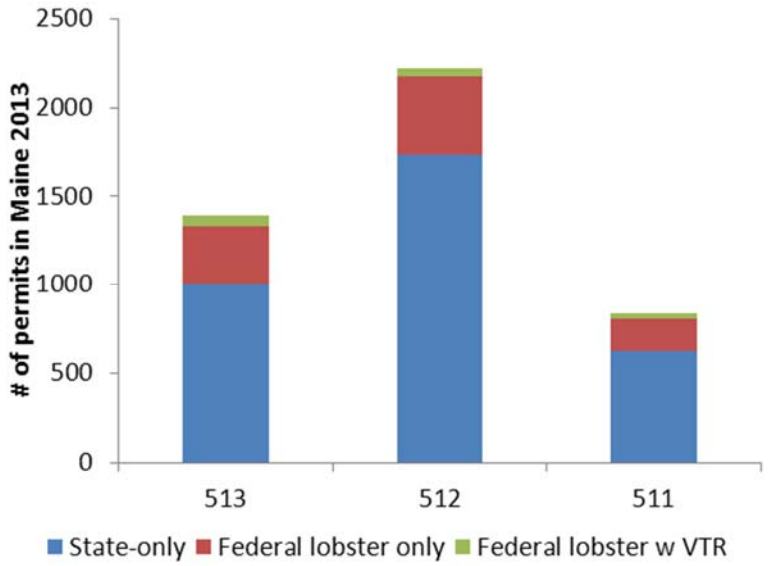


**Figure 4**. Breakdown of Maine permit type in 2013. Statistical Area determined by port landed (ME DMR).

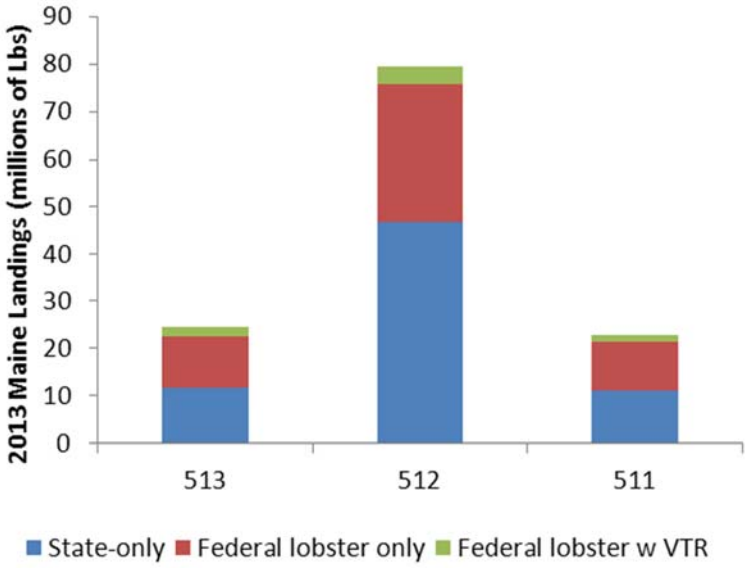


**Figure 5 .** Breakdown of Maine landings (millions of lbs) by permit type in 2013. Statistical Area is determined by port landed (ME DMR).

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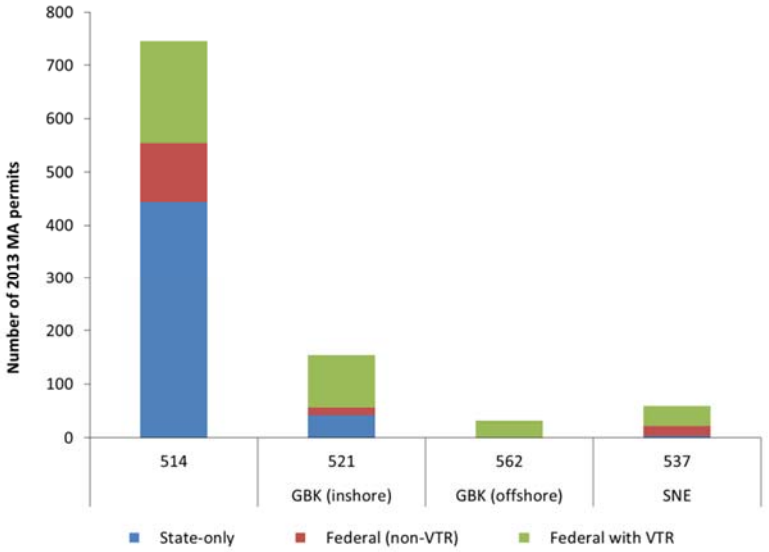


**Figure 6.** Breakdown of Massachusetts permit type by the four statistical areas with the highest MA landings in 2013. (MA DMF).

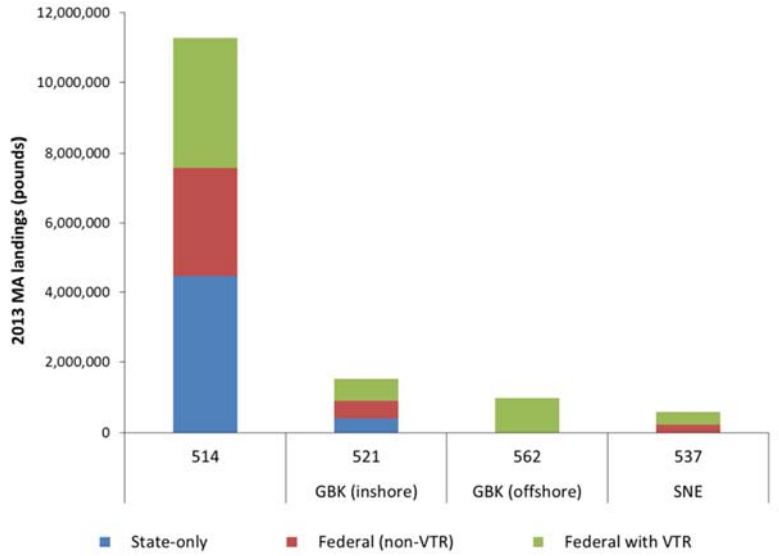


**Figure 7.** Breakdown of Massachusetts landings permit type for the four statistical areas with the highest MA landings in 2013 (MA DMF).

# *Atlantic States Marine Fisheries Commission*

## MEETING OVERVIEW

**American Eel Management Board Meeting**
**August 05, 2015**
**8:00 a.m. – 8:45 a.m.**
**Alexandria, Virginia**

| | | |
|---|---|---|
| Chair: John Clark<br>Assumed Chairmanship: 8/15 | Technical Committee Chair:<br>Sheila Eyler (USFWS) | Law Enforcement Committee<br>Representative: Cornish |
| Vice Chair:<br>VACANT | Advisory Panel Chair:<br>Martie Bouw | Previous Board Meeting:<br>October 27, 2014 |

**Voting Members:** **ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, VA, NC, SC, GA, FL, D.C., PRFC, USFWS, NMFS (19 votes)**

**2. Board Consent:**

- Approval of Agenda
- Approval of Proceedings from October 2014 Board Meeting

**3. Public Comment:**

At the beginning of the meeting, public comment will be taken on items not on the Agenda. Individuals that wish to speak at this time must sign-up at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Board Chair will not allow additional public comment. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

**4. Technical Committee Report (8:15– 8:35 a.m.)**

**Background**

- Addendum IV requires that any state or jurisdiction with a commercial glass eel fishery must implement a fishery-independent life cycle survey covering glass, yellow, and silver eel life stages within at least one river system.
- Maine developed a life cycle survey for TC review. The TC formulated recommendations to the Board regarding Maine's Life cycle survey proposal (**Briefing Materials**).

**Presentation**

- Technical Committee Report by Sheila Eyler, TC Chair

**5. Update on Addendum III Implementation (8:35– 8:45 a.m.)**

**Background**

- Addendum III, implemented in January of 2014, established the following yellow eel measures:
    - 9" min size for yellow eel recreational and commercial fisheries
    - ½" x ½" min mesh size for yellow eel pots
    - allowance of 4x4" escape panel in pots of ½" x ½" mesh for 3 years
    - Recreational 25 fish bag limit per day per angler
    - Crew and Captain involved in for-hire are exempt and allowed 50 fish bag limit per day
- Delaware Department of Natural Resources worked with its state legislature to change the yellow eel measures under Addendum III since management authority for eel measures is under the authority of the Delaware legislature.
- Delaware legislature did not approve the changes. Delaware's minimum size limit is 6 inches in the commercial and recreational fisheries, there is no minimum mesh size for pots, and the recreational possession limit is 50 eel per day (**Supplemental Materials**).

**Presentation**

- Review of Delaware's yellow eel measures for consistency with the American Eel Fishery Management Plan by M. Waine

**Board Actions for Consideration**

- Consider if Delaware's minimum size limit, commercial pot mesh size, and recreational possession limit is in compliance with the American Eel FMP

**6. Elect Vice-Chair (8:45 a.m) Action**

**Background**

- Vice-Chair seat is vacant.

**Board Actions for Consideration**

- Elect a Vice-Chair

**7. Other Business/ Adjourn**

# State of Delaware
# American Eel Fishery Annual Report

September 1, 2015

The Delaware Legislature did not amend the Delaware Code in 2014 or 2015 to implement the management changes required by Addendum III of the Atlantic States Marine Fisheries Commission (ASMFC) Fishery Management Plan (FMP) for American eel. The State of Delaware is currently out of compliance with the minimum pot mesh size, minimum length, and possession limits for recreational fishermen requirements of the FMP. Delaware continues to conduct the young-of-the-year abundance survey mandated by the FMP and the commercial harvest data collection program recommended by the FMP.

## 1. Commercial fishery

a. Synopsis of regulations in place

1. *Open Season*: All year
2. *Minimum Length*: 6 inches total length
3. *Trip Limit*: No limit
4. *Eel Pot Limit:* No limit
5. *Minimum Mesh Size:* None

A commercial eel fishing license is required to take and sell 50 or more eels per day or to fish more than two eel pots per day. The eel fishery is currently an open fishery with licensing fees of $115.00 for residents and $1,150.00 for nonresidents. Legal commercial fishing gear includes fyke or hoop nets, seines,

minnow traps, or eel pots. Eel pots are not restricted in mesh size or overall size. Commercial eel fishing is restricted to tidal waters.

b. Estimates of directed harvest

1. Pounds landed by life stage and gear type

Commercial eelers in Delaware landed 62,388 pounds of American eel in 2014, a 23% decrease from the 80,811 pounds landed in 2013 and 41% less than mean annual landings from 1999 through 2014 (104,863 lbs.). The 2014 landings were the third lowest reported since logbook reporting was made mandatory in 1999. (Figure1). All reported eel landings in Delaware are harvested via baited pots.

American eels ranked sixth in pounds landed and third in value among all fish species landed commercially in Delaware during 2014 (G. Glanden, DDFW, personal communication). Delaware Bay and River ports, including ports on Delaware Bay and River tidal tributaries, accounted for 88% of 2014 landings with the Inland Bays and other Sussex County ports accounting for the remaining 12% of landings (Table 1a).

The number of commercial eel licenses sold rose to 66 from the 62 sold in 2013. However, 2014 was the ninth year in a row in which fewer than 70 eel licenses were issued. Of the 66 commercial licenses issued, only 19 licensees reported landing eels in 2014 while 32 reported they did not fish for eels and 15 did not submit any report.

2. Biological data taken from commercially-caught American eel

A sub-sample of 225 commercially caught American eels were measured and weighed with 211 individuals aged to estimate the age/length/weight composition of the commercial catch.

Sampled eels ranged in length from 236 to 660 TL (Total length) with a mean length of 392 mm, and ranged in weight from 23 to 791 g with a mean weight of 125g. The length-weight relationship derived from 2014 commercial data predicts a weight of 110.7 g for an eel of 392 mm TL, as defined by the following formula:

$$W=1.543E\text{-}6L^{3.029}$$

The sampled eels ranged in age from 2 to 9 years old, with a mean age of 4. Approximately 82% of total eels sampled were yellow eels between 3 and 5 years old, with 59% of the total number sampled between age 4 and 5 years. The mean length at age increased steadily from ages 3 through 7, although there was much overlap in the range of lengths at each age (Figure 2). American eels aged 7, 8 and 9 comprised only 9% of the catch which suggested that eels older than 6 were uncommon among eels caught with commercial gear in Delaware tidal waters in 2014. The mean age of the 2014 commercially caught aged eels

was the same as the mean age of the 2007 through 2013 commercially caught eels (DDFW 2014).

3. Estimated percent of harvest going to food versus bait

Yellow eels for food use comprised 44,327 pounds or 71% of total reported landings, and bait eels comprised the remaining 18,061 pounds or 29% of the total (Table 1b). Different proportions of bait eel landings were caught in the spring and fall (14% and 49% respectively). In most years, greater than 75% of bait landings occur in the fall, which coincides with the height of the recreational striped bass fishery along the Atlantic coast. Eels in the bait eel size range were sold as food eels when there was insufficient demand for bait eels. Conversely, a small proportion of large eels (<100 lbs.) were sold as bait to boats participating in the White Marlin Open in Ocean City, Maryland.

c. Estimates of export by season

Delaware did not require dealers to report the final destination of commercially caught eels but the landings reports submitted by eelers provided information on the timing and disposition of the landings. Annual eel landings were highest in the spring and fall with peaks occurring in April through May and September through October. Eel cooperators reported that most bait eels were delivered to bait dealers supplying coastal recreational fisheries in Delaware, Maryland, Virginia and the Carolinas, although there is an increasing demand for bait eels supplied to recreational fisheries on large southern freshwater lakes and impoundments. The food eels were sold almost exclusively to a single eel dealer, but several eelers mentioned the possible entry of other eel buyers in future years.

d. Harvest data provided as CPUE

Effort, measured in eel pot days decreased by 15% between 2013 and 2014. Catch per pot day, measured in pounds caught per pot per day fished decreased 9% between 2013 and 2014 (Figure 1). Delaware eelers averaged 1.32 pounds of eels per eel pot per day during 2014, below the mean catch per pot per day (1.70) for the time series.

## 2. Recreational Fishery

a. Synopsis of regulations in place

1. *Open Season*: All year

2. *Minimum Length*: 6 inches total length

3. *Possession Limit*: 50 per day

4. *Eel Pot Limit*: 2 per person

b. Estimate of Delaware 2014 Total Recreational Catch (A + B1 + B2) from the Marine Recreational Information Program (MRIP) report (Glanden and Newlin 2015).

| Months (2014) | Number of eels caught[1] |
|---|---|
| March-April | 0 |
| May-June | 1,324 |
| July –August | 681 |
| September – October | 927 |
| **TOTAL** | 2,932 |

[1] Eels caught was an estimate based on creel surveys and included eels kept and eels released. Eels caught were reported in numbers not pounds. Neither individual nor aggregate weight estimates were made in the report.

The 2014 estimated recreational catch was 70% lower than the 2013 estimated catch (9,766), 88% lower than the 2012 estimated catch (25,067), and 92% lower than the 2011 estimated catch (34,551).

**3. Fishery-independent monitoring**

a. Young-of-the-year abundance survey for 2014

The 2014 young-of-the-year abundance survey summary is in Appendix 1

b. Other fishery-independent data

Delaware Division of Fish and Wildlife have several ongoing fisheries research projects that regularly capture American eels. American eels captured during the course of these projects were counted and measured, and subsamples of the captured eels were kept for age analysis. Researchers from the University of Delaware completed a study of silver eel emigration from the Indian River drainage in 2004 (Barber 2004). Researchers from Delaware State

University completed a study of eel movements in Silver Lake, a freshwater impoundment in the St. Jones drainage, in 2006 (Thomas 2006). Further, researchers from Delaware State University have monitored eel movement, growth, population size, and air bladder parasite infestation in the tidal portion of the St. Jones River from 2006 to 2009 (Cairns 2009).

c. Projects planned for the next five years

Delaware will continue all current eel monitoring projects. No new projects are planned.

## 4. Characterization of other losses

Delaware has several power and industrial plants that extract large amounts of cooling water through intakes open to nearby waters. Most of these intakes are located along the Delaware River in the Wilmington area, but there is also a large power plant on Indian River in Delaware's Inland Bays. Two major power plants contracted previous independent studies on fish impingement of their cooling water intake screens, the first of which is located near Wilmington, DE while the second is located near Millsboro, DE. American eels comprised less than 1% of fish caught during two years of impingement sampling at the Edge Moor Power Plant on the Delaware River near Wilmington (Entrix Inc. 2002). Fourteen American eels were caught during impingement samples and 20 juvenile American eels were caught during entrainment samples taken from December 1999 through November 2000. Thirty two American eels were caught in impingement samples and 16 juvenile American eels were caught in entrainment samples taken from December 2000 through November 2001. American eels comprised less than 1% of all fish caught during two years of sampling at the Indian River Power Plant on Indian River near Millsboro (Entrix 2003). Six American eels were caught in impingement samples and 31 juvenile American eels were caught during entrainment samples taken from December 1999 through November 2000. Six American eels were caught in impingement samples and 26 juvenile American eels were caught in entrainment samples taken from December 2000 through November 2001. However, both plants operate 24 hours per day and the impingement/entrainment estimates provided were likely underestimating total concentrations of fish, thus the annual mortality generated could be substantial. In 2010, Indian River Power Station Unit 2 was shut down permanently. Unit 1 followed in 2011, and, most recently, Unit 3 was retired in 2013, effectively eliminating 30 to 40 billion gallons of cooling water drawn annually from Indian River and the associated mortality on fish due to impingement/entrainment of these 3 power generating units.

Bycatch mortality of American eel in other fisheries was not quantified but was likely low considering most fishing methods commonly used in Delaware do not target and are thus less likely to capture eels.

Poaching losses were likely minimal during 2014 as no glass eel poaching citations/arrests were made during 2014.

Delaware Division of Fish and Wildlife took American eels for scientific purposes in order to comply with the American eel FMP during 2014 (n = 981). Eels kept for measurements during the glass eel monitoring conducted from February through March exhibited five percent mortality. An additional number of glass eel mortalities occurred during the monitoring period due to handling stress but no estimate was made as to the total. The Division also acquired 211 yellow eels during 2014 for age and growth analyses from Delaware commercial fishermen.

## References cited


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Cairns, C. M. 2009. Population ecology of yellow-phase American eels (*Anguilla rostrata*) in the St. Jones River, Delaware. Master's thesis, Delaware State University, Dover.

Delaware Division of Fish and Wildlife (DDFW). 2014. State of Delaware American eel fishery annual report. Fishery management plan compliance report to ASMFC. Delaware Division of Fish and Wildlife, Dover, DE 19901.

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Entrix, Inc. 2003. An ecological risk-based 316(B) evaluation for the Indian River Generating Station. Prepared for: NRG Energy Millsboro, DE.

Newlin, S. and G. Glanden. 2015. Marine recreational fishing in Delaware 2014. Annual landings report. Delaware Division of Fish and Wildlife, Dover, DE 19901.

Thomas, J. C. 2006. American eel behavioral patterns in Silver Lake, Dover, Delaware. Master's thesis, Delaware State University, Dover.

Table 1a. Delaware consolidated commercial eel landings, in pounds, by area and market category, 2014.

| Area Fished | Pot-days fished | Number of eeling trips | Landings (lbs.) by market grade | | Total landed (lbs) | Ex-vessel value |
|---|---|---|---|---|---|---|
| | | | Bait eels | Yellow eels | | |
| Delaware River and associated tidal creeks | 12,394 | 72 | 8,725 | 5,245 | 13,970 | $34,925 |
| Delaware Bay and associated tidal creeks | 23,954 | 173 | 9,173 | 31,724 | 40,897 | $102,242 |
| Inland Bays | 10,859 | 46 | 163 | 7,358 | 7,521 | $18,803 |
| **Total** | 47,207 | 291 | 18,061 | 44,327 | 62,388 | $155,970 |

Table 1b. Delaware consolidated commercial eel landings, in pounds, by season and market category, 2014.

| Season Fished | Pot-days fished | Number of eeling trips | Landings (lbs.) by market grade | | Total landed (lbs) | Ex-vessel value |
|---|---|---|---|---|---|---|
| | | | Bait eels | Yellow eels | | |
| March-May | 13,530 | 90 | 2,490 | 18,926 | 21,416 | $53,540 |
| June-August | 9,586 | 58 | 6,663 | 1,461 | 8,124 | $20,310 |
| September-December | 24,091 | 143 | 8,908 | 23,940 | 32,848 | $82,120 |
| **Total** | 47,207 | 291 | 18,061 | 44,327 | 62,388 | $155,970 |

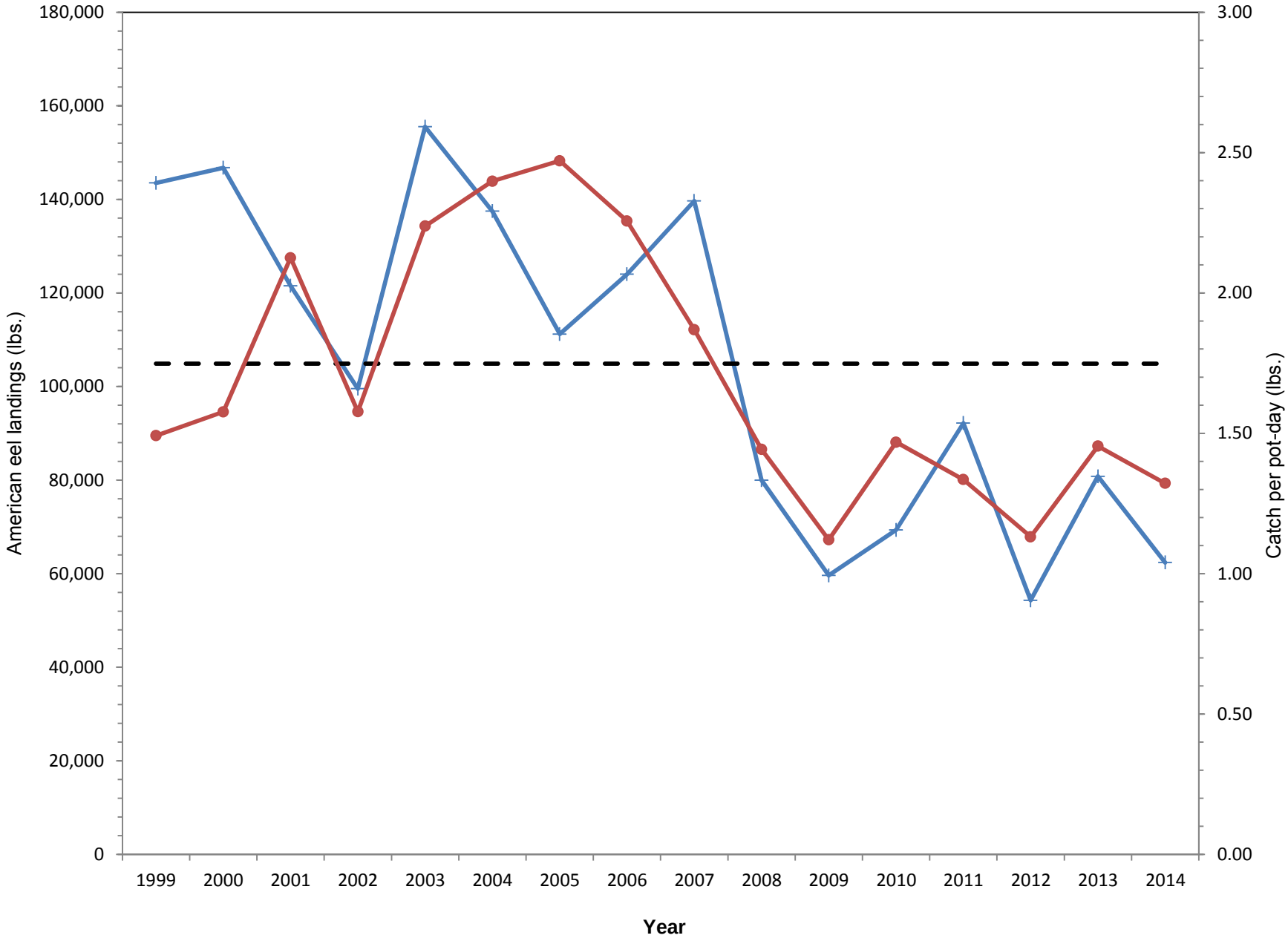


Figure 1. American eel commercial landings in pounds (+) and pounds caught per pot-day (●) in Delaware during 1999 through 2014. Mean landings (104,863 lbs.) for the time series represented by the dotted line.

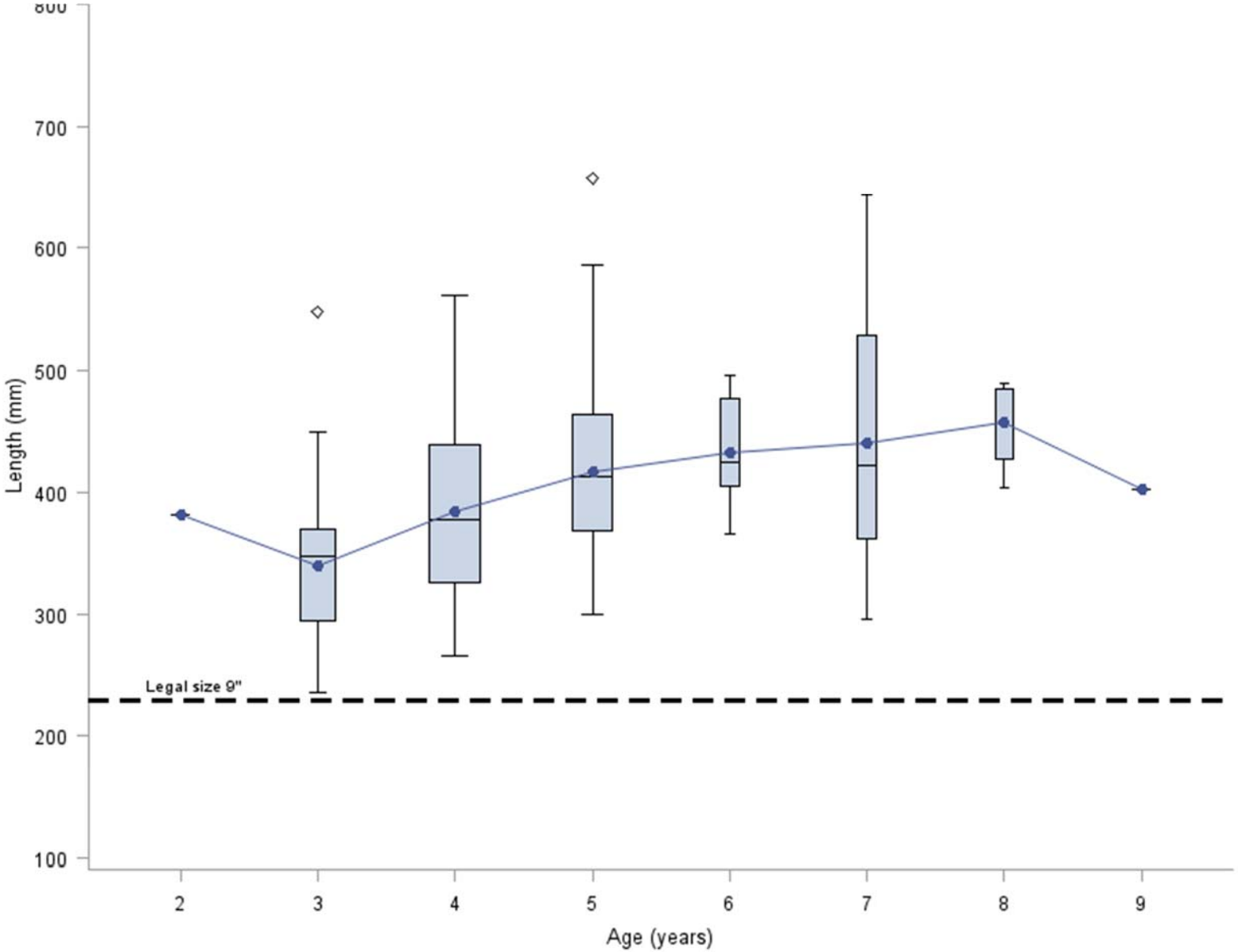


Figure 2. Boxplot of length by age for all 2014 commercially-caught American eels (N=203). Line connects mean values, box represents median, 25 and 75 quartiles, and whiskers extend to furthest values. Box width increases with number of observations. No box drawn if age represented by a single observation.

**Appendix 1.**

Glass eel monitoring in Delaware during 2014

The Atlantic States Marine Fisheries Commission (ASMFC) Interstate Fishery Management Plan (FMP) for American eel, passed in October 1999, requires all member states to monitor the migration of glass eels to freshwater. Perceived declines in glass eel numbers during the past 20 years were a major impetus to passing an FMP for American eel (ASMFC 2000). Delaware established a glass eel monitoring program in February 2000 and monitored glass eels during February, March, and April 2014 to compliment previous years.

Monitoring site

Delaware chose to monitor a single sample site, in compliance with the FMP, due to logistical constraints associated with eel sampling. The site chosen was the spillway of Millsboro Pond in southern Delaware (Figure 1). Millsboro Pond spillway is approximately 12 miles from the Atlantic Ocean and it is the first barrier glass eels migrating to freshwater encounter in Indian River. The sampling location was considered to be the best location in the state by Delaware Division of Fish and Wildlife (DDFW) Enforcement Officers for capturing elvers, based on poaching activity in the mid-1990s. The site also complies with the FMP recommendations for optimal site location: at the head of tide of small streams or estuaries and as close to the Atlantic Ocean as possible. Indian River is part of Delaware's Inland Bay system, which supports an active yellow eel fishery. Approximately 13.4% of Delaware's 2014 commercial eel landings came from the Inland Bays (Glanden and Newlin 2015).

Monitoring materials and methods

Glass eels were captured with a 4-foot x 4-foot mouth, 1/32-inch mesh wingless elver fyke. This gear was copied from a net confiscated from glass eel poachers by DDFW Enforcement Agents, who reported that this was the gear of choice among glass eel poachers. The cod end of the fyke was attached to a 4-foot x 2-foot x 2-foot live car, also of 1/32-inch mesh, to prevent large catches of elvers from being suffocated in the confines of the fyke's cod end.

The fyke was set along the edge of the southern bridge foundation in the spillway at the base of the dam at Millsboro Pond facing downstream. This part of the spillway was reported by DDFW Enforcement Officers to be the best area of the spillway to catch glass eels, based on observations of glass eels, and numbers of eel poachers. Counter currents at this part of the spillway ensured water flowed into the net at all tide stages and caused water to flow into the net during outgoing tides.

Monitoring began on February 4 and continued for eight weeks until April 4 for a total of 26 days fished. Storm conditions on several potential monitoring days required removal of the fyke from the sampling site which resulted in the net not being fished every day of each monitoring week.

The net was typically set each sampling week between 0830 hr and 0930 hr or 1230 hr and 1330 hr (depending on the time of low tide) on Monday, then emptied and reset 24 hours later on Tuesday through Thursday, and finally emptied and removed on Friday prior to the weekend.

Date, time of set, moon phase, water flow, water temperature, salinity, and dissolved oxygen were recorded at the start of each sample, and date, time of catch, water flow, water temperature, salinity, dissolved oxygen and gear condition (anomalies) were recorded at the conclusion of each sample.

The captured glass eels were counted each time the net was emptied. If many glass eels were caught, the catch was volumetrically enumerated with a splitter box (Winner and McMichael 1997) and released on the upstream side of the dam to avoid repeated capture. All eels were kept for measurements if they numbered 60 or less, otherwise a sub-sample of 60 was retained. Specimens were measured to the nearest millimeter, weighed to the nearest 0.01 g and assigned a pigmentation stage based on the method developed by Haro and Krueger (1988).

Monitoring results and discussion

The fyke-net captured an estimated 292,766 glass eels during the 26 sample days at the Millsboro Dam spillway during 2014. Catches ranged from 96 to 95,296 eels per sample day (Table 1), with a median of 1,444. The geometric mean was 1,819 glass eels per sample day (Table 3), sixth highest in the fifteen year time series. The highest daily catch occurred during the third week of February and the second week in March (Figure 2). Daily catch fluctuated widely during the monitoring period.

Sampled glass eels ranged in total length from 48.2 to 71.1 mm NL (Notochord Length), with a mean length of 60.7 mm NL and in weight from 0.08 to 0.36 grams, with a mean weight of 0.19 grams. The daily length range varied and displayed no obvious trend during the monitoring period (Figure 3).

Pigmentation stage of the sampled glass eels ranged from 1 to 7, with a mean stage of 3 during the monitoring period. Daily mean pigmentation stage displayed an increasing trend during the sampling period (Figure 4), suggesting that most of the recruitment to advanced stages in Indian River occurred later in the monitoring period. In previous years, the mean pigmentation stage tended to decrease during high catch weeks and increase during low catch weeks presumably because the catch during high catch weeks was comprised mostly of recent recruits to Indian River while the catch during low catch weeks was comprised of glass eels that had been in Indian River for a longer period (DDFW 2014).

Water temperature ranged from 2.9° to 13.7° C, with a mean temperature of 7.4° C during the monitoring period (Table 2a). Glass eel abundance was not significantly correlated to water temperature during the monitoring period.

Water flow at the spillway ranged from 98 to 233 cubic feet per second (cfs) with a mean flow of 151 cfs during the monitoring period (Table 2b). Mean flow in 2014 was 31% higher than the mean flow for the 2000 through 2013 monitoring periods, 116 cfs. Flow was not correlated to glass eel abundance in 2014.

Millsboro Dam spillway, a large source of freshwater in close proximity to the ocean, was highly attractive to migrating glass eels. This site proved to be very effective for glass eel monitoring because it concentrated migrating glass eels in a small area. However, those features of the Millsboro Dam spillway that made it an excellent location for glass eel monitoring likely made it a detriment to glass eel survival. Although the dam was not high, it had a nearly vertical wall and the water flowing over the dam tended to shoot out rather than flow down the face of the dam at that time of year, which suggested glass eel passage over the dam was unlikely. The large number of glass eels caught at the base of the spillway suggested that glass eels migrate to the spillway and remain there for a time as they attempt to move further upstream. Although the substantial eel landings from the Inland Bays (see Activity 6b) indicated glass eels blocked from upstream passage at the Millsboro Pond spillway eventually disperse, the concentration of glass eels at the spillway while they attempted upstream passage must have provided bountiful prey for predators in the area and, in past years, has provided an ideal location for glass eel poaching. The 2014 glass eel catch was the fifth highest annual catch for the time series, but was 63% lower than the highest annual glass eel catch (2013). Nearly 33% of the 2014 catch occurred on March 11 (Table 3). The geometric mean daily catch was 73% lower than the 2013 geometric mean. Low catches in 2008 -2010 indicated a declining trend in American eel recruitment to Indian River, however, catches over the last three years show a definitive increase in American eel recruitment (Figure 5).

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Table 1. Glass eels caught by date at Millsboro Dam spillway during February and March 2014.

| Date | Glass eels | |
|---|---|---|
| | Number caught | % of total |
| 2/4/2014 | 2,080 | 0.71% |
| 2/5/2014 | 416 | 0.14% |
| 2/6/2014 | 96 | 0.03% |
| 2/18/2014 | 153 | 0.05% |
| 2/19/2014 | 2,624 | 0.90% |
| 2/20/2014 | 30,464 | 10.41% |
| 2/21/2014 | 62,208 | 21.25% |
| 2/25/2014 | 984 | 0.34% |
| 2/26/2014 | 167 | 0.06% |
| 2/27/2014 | 124 | 0.04% |
| 3/6/2014 | 1,552 | 0.53% |
| 3/7/2014 | 1,216 | 0.42% |
| 3/11/2014 | 95,296 | 32.55% |
| 3/12/2014 | 10,112 | 3.45% |
| 3/13/2014 | 49,664 | 16.96% |
| 3/14/2014 | 13,056 | 4.46% |
| 3/20/2014 | 1,336 | 0.46% |
| 3/21/2014 | 10,368 | 3.54% |
| 3/25/2014 | 206 | 0.07% |
| 3/26/2014 | 239 | 0.08% |
| 3/27/2014 | 213 | 0.07% |
| 3/28/2014 | 1,072 | 0.37% |
| 4/1/2014 | 2,464 | 0.84% |
| 4/2/2014 | 1,328 | 0.45% |
| 4/3/2014 | 2,880 | 0.98% |
| 4/4/2014 | 2,448 | 0.84% |
| All | 292,766 | 100% |

Table 2. (a) Water temperature (°C) by month during 2001 through 2014 glass eel monitoring periods at Millsboro Pond spillway.

| Year | Month | Minimum Temp. | Maximum Temp. | Mean Temp. |
|---|---|---|---|---|
| 2001 | February | 4.93 | 8.61 | 6.59 |
| 2001 | March | 4.72 | 12.26 | 8.22 |
| 2002 | January | 4.76 | 10.62 | 6.75 |
| 2002 | February | 3.89 | 10.96 | 7.30 |
| 2002 | March | 6.69 | 13.00 | 9.78 |
| 2003 | January | 2.70 | 2.70 | 2.70 |
| 2003 | February | 3.30 | 4.23 | 3.61 |
| 2003 | March | 6.37 | 15.45 | 10.90 |
| 2003 | April | 7.36 | 14.00 | 10.11 |
| 2004 | February | 2.63 | 6.94 | 4.94 |
| 2004 | March | 7.34 | 12.43 | 9.50 |
| 2004 | April | 7.25 | 9.80 | 8.63 |
| 2005 | February | 3.70 | 8.08 | 5.89 |
| 2005 | March | 2.10 | 10.99 | 6.77 |
| 2005 | April | 10.16 | 13.60 | 12.20 |
| 2006 | February | 3.77 | 8.07 | 5.69 |
| 2006 | March | 3.01 | 16.20 | 8.89 |
| 2007 | February | 1.20 | 5.47 | 3.71 |
| 2007 | March | 2.70 | 17.30 | 9.82 |
| 2007 | April | 8.80 | 16.10 | 13.73 |
| 2008 | February | 2.58 | 11.51 | 6.61 |
| 2008 | March | 7.54 | 12.00 | 10.38 |
| 2009 | February | 1.19 | 5.65 | 3.17 |
| 2009 | March | 8.71 | 12.02 | 10.50 |
| 2009 | April | 10.96 | 14.32 | 12.38 |
| 2010 | March | 3.33 | 14.64 | 9.58 |
| 2010 | April | 13.34 | 21.12 | 16.63 |
| 2011 | February | 4.08 | 6.12 | 5.13 |
| 2011 | March | 7.57 | 13.70 | 10.54 |
| 2011 | April | 9.24 | 16.11 | 13.47 |
| 2012 | February | 3.71 | 11.50 | 7.60 |
| 2012 | March | 7.50 | 17.20 | 12.83 |
| 2012 | April | 14.70 | 16.60 | 15.65 |
| 2013 | February | 4.40 | 7.60 | 6.03 |
| 2013 | March | 3.40 | 11.80 | 7.86 |
| 2013 | April | 10.80 | 12.00 | 11.23 |
| 2014 | February | 2.90 | 8.50 | 5.47 |
| 2014 | March | 3.40 | 11.30 | 7.31 |
| 2014 | April | 10.70 | 13.70 | 12.43 |

Table 2. (b) Water flow (cubic feet per second) at Millsboro Pond spillway during 2001 through 2014 glass eel monitoring periods.

| Year | Minimum Flow | Maximum Flow | Mean Flow |
|---|---|---|---|
| 2001 | 84 | 168 | 117 |
| 2002 | 27 | 44 | 34 |
| 2003 | 90 | 373 | 203 |
| 2004 | 91 | 254 | 124 |
| 2005 | 98 | 390 | 143 |
| 2006 | 64 | 151 | 103 |
| 2007 | 92 | 211 | 126 |
| 2008 | 40 | 87 | 56 |
| 2009 | 66 | 91 | 76 |
| 2010 | 149 | 405 | 228 |
| 2011 | 48 | 108 | 70 |
| 2012 | 41 | 118 | 60 |
| 2013 | 88 | 239 | 152 |
| 2014 | 98 | 233 | 151 |

Table 3. Total, median and geometric mean glass eel catch at Millsboro Pond spillway during 2000 through 2014 glass eel monitoring periods.

| Year | Number of samples | Total caught | Mean | Median | Geometric mean (GM) | Upper 95% C.I. of Geometric mean | Lower 95% C.I. of Geometric mean | % change of GM from previous year |
|---|---|---|---|---|---|---|---|---|
| 2000 | 21 | 151,176 | 7,199 | 612 | 864 | 1,680 | 444 | |
| 2001 | 25 | 343,066 | 13,723 | 6,083 | 4,808 | 8,364 | 2,763 | 456% |
| 2002 | 26 | 239,180 | 9,199 | 9,526 | 5,832 | 8,577 | 3,966 | 21% |
| 2003 | 25 | 81,233 | 3,249 | 837 | 626 | 1,379 | 284 | -89% |
| 2004 | 28 | 148,642 | 5,309 | 2,820 | 1,937 | 3,773 | 995 | 210% |
| 2005 | 27 | 150,634 | 5,579 | 1,576 | 1,202 | 2,487 | 581 | -38% |
| 2006 | 28 | 252,043 | 9,002 | 3,344 | 2,398 | 4,776 | 1,204 | 99% |
| 2007 | 25 | 318,053 | 12,722 | 1,136 | 1,252 | 2,706 | 579 | -48% |
| 2008 | 17 | 40,126 | 2,360 | 792 | 690 | 1,433 | 332 | -45% |
| 2009 | 21 | 32,482 | 1,412 | 1,168 | 819 | 1,380 | 489 | 19% |
| 2010 | 25 | 50,414 | 2,017 | 1,552 | 649 | 1,319 | 319 | -21% |
| 2011 | 26 | 97,907 | 3,766 | 1,695 | 1,748 | 2,593 | 1,179 | 169% |
| 2012 | 29 | 440,924 | 15,204 | 12,208 | 10,011 | 15,875 | 4,147 | 473% |
| 2013 | 27 | 796,815 | 29,512 | 16,576 | 6,733 | 15,431 | 2,937 | -33% |
| 2014 | 26 | 292,766 | 11,977 | 1,444 | 1,819 | 3,574 | 925 | -73% |
| | | | | | | | | |
| **All Years** | | 2,345,880 | 224,478 | 150,905 | 1,972 | 2,363 | 1,646 | |


Figure 1. Location of Millsboro Pond spillway (arrow) on Indian River, Delaware. Spillway is approximately 12 miles from Indian River Inlet.

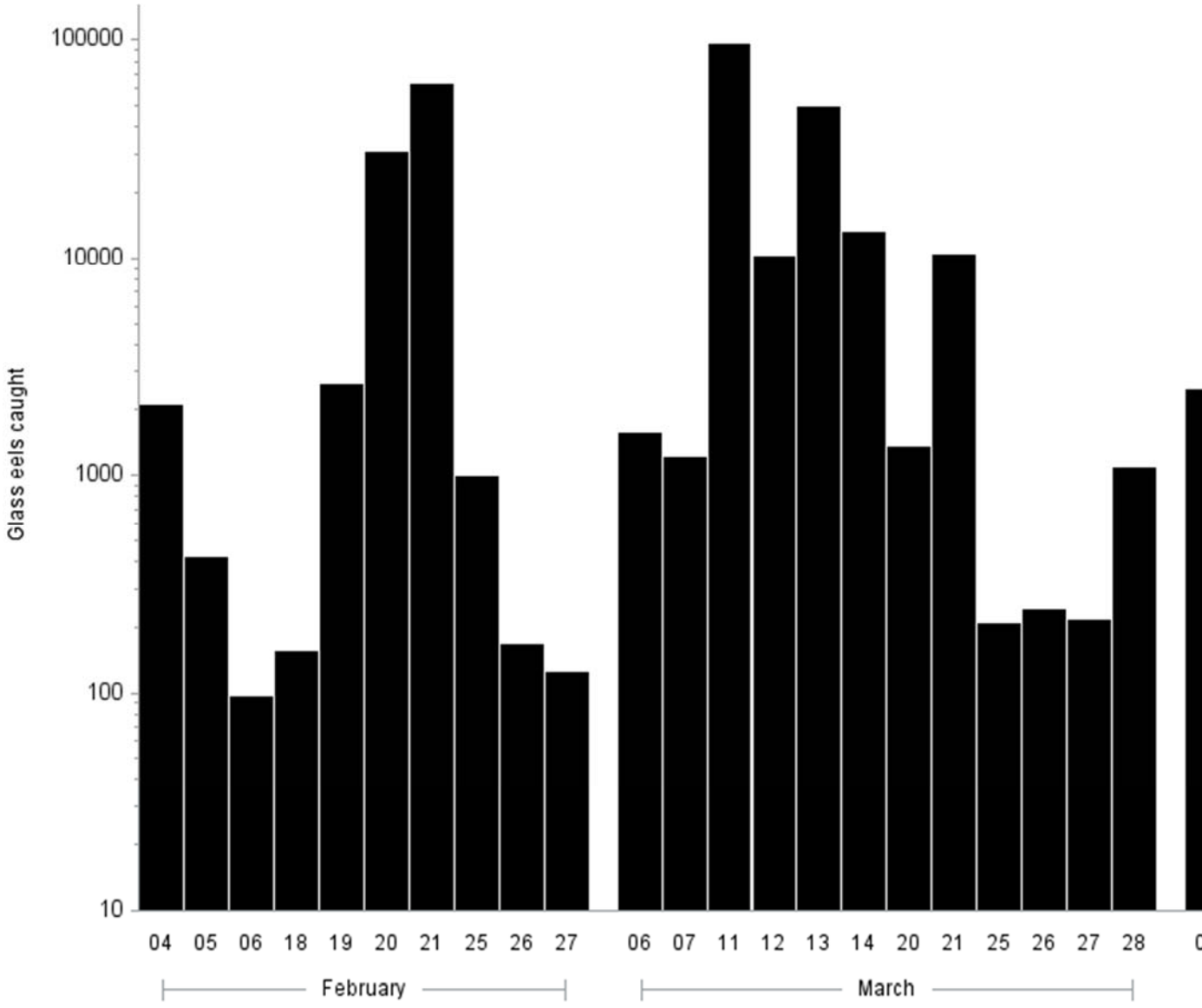


Figure 2. Glass eel catch by date during 2014 monitoring period. The response axis scale is irregular due to the large variation i

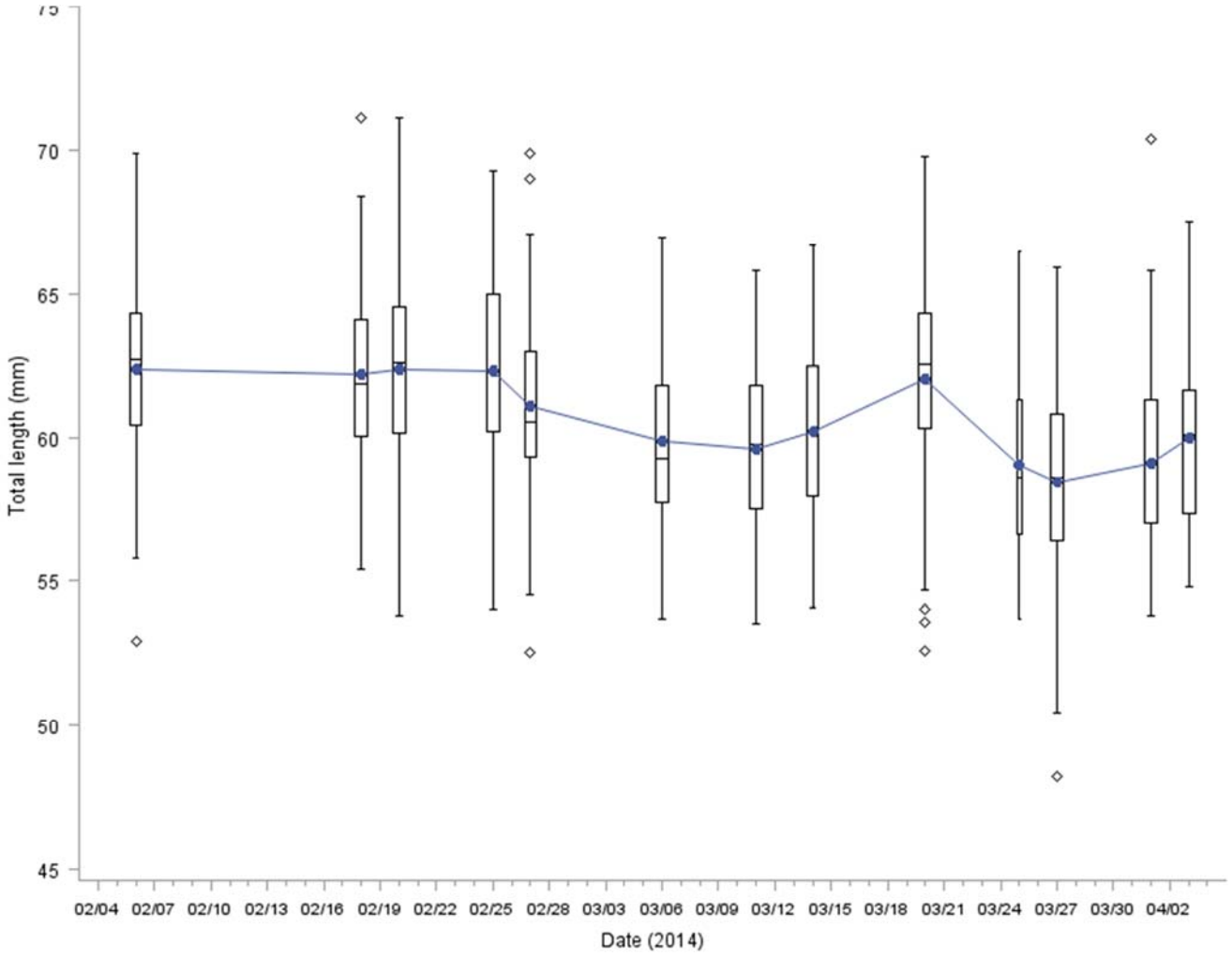


Figure 3. Boxplot of glass eel total length by date during 2014 monitoring period. Line connects mean values, box represents median, 25th and 75th quartiles, whiskers extend to furthest value within 1.5 times the interquartile range, and diamonds represent outside values. Box width increases with number of observations.

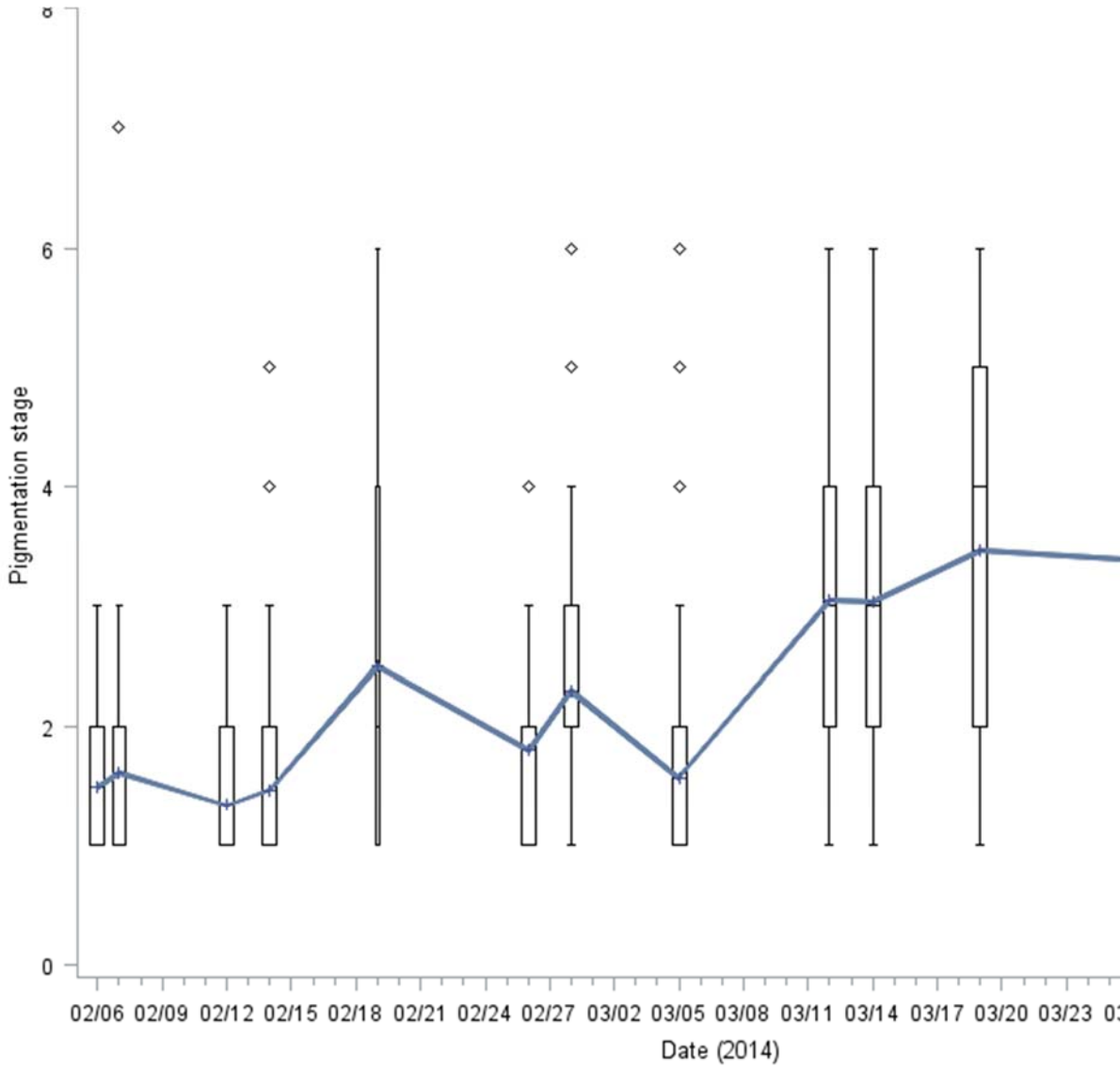


Figure 4. Boxplot of glass eel pigmentation stage by date during 2014 monitoring period. Line connects mean values, box represents median, 25th and 75th quartiles, whiskers extend to furthest value within 1.5 times the interquartile range, and diamonds represent outside values. Box width increases with number of observations.

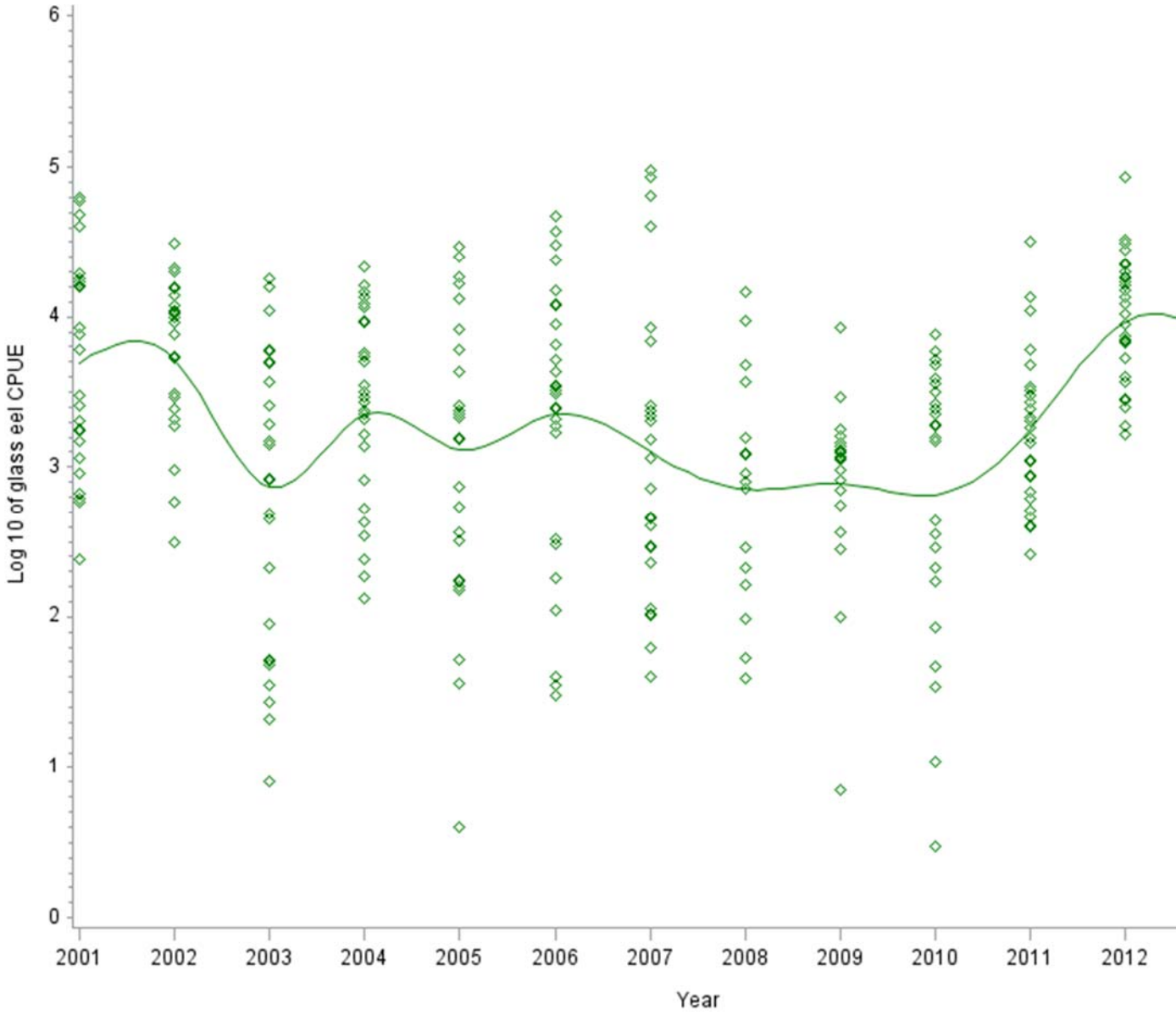


Figure 5. Scatter and smooth line plot of the $\log_{10}$ CPUE vs. year for 2001 through 2014 glass eel monitoring.

*Atlantic States Marine Fisheries Commission*

# PUBLIC INFORMATION DOCUMENT FOR AMENDMENT 1 TO THE INTERSTATE FISHERY MANAGEMENT PLAN FOR TAUTOG

**This draft document was developed for 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 this document.**

***ASMFC Vision Statement:***
***Sustainably Managing Atlantic Coastal Fisheries***

**August 2015**

**The Atlantic States Marine Fisheries Commission**
**Seeks Your Input on Tautog Management**

The public is encouraged to submit comments regarding this document during the public comment period. Comments will be accepted until 5:00 PM (EST) on [INSERT DATE]. Regardless of when they were sent, comments received after that time will not be included in the official record. The Tautog Management Board will consider public comment on this document when developing Draft Amendment 1 to the Interstate Fishery Management Plan for Tautog.

You may submit public comment in one or more of the following ways:

1. Attend public hearings held in your state or jurisdiction.
2. Refer comments to your state's members on the Tautog Management Board or Advisory Panel, if applicable.
3. Mail, fax, or email written comments to the following address:

Ashton Harp
1050 North Highland St., Suite 200 A-N
Arlington, VA 22201
Fax: (703) 842-0741
aharp@asmfc.org (subject line: Tautog PID)

If you have any questions please call Ashton Harp at (703) 842-0740.

**Commission's Process and Timeline**

| | | |
|---|---|---|
| | February 2015 | Board Initiates Plan Amendment and Tasks PDT to Develop Public Information Document (PID) |
| **Current Step →** | **August 2015** | **Board Reviews Draft PID and Considers Approval for Public Comment** |
| | September – October 2015 | Board Solicits Public Comment on the PID and States Conduct Public Hearings |
| | November 2015 | Board Reviews Submitted Public Comment and Advisory Panel Input and Provides Guidance to PDT on Development of Draft Amendment 1 |
| | February 2016 | Management Board Reviews Draft Amendment 1 and Considers Approval for Public Comment |
| | March – April 2016 | Board Solicits Public Comment on Draft Amendment 1 and States Conduct Public Hearings |
| | May 2016 | Board Reviews Submitted Public Comment and Input from its Advisory Panel and the Law Enforcement Committee<br><br>Full Commission Considers Final Approval of Amendment 1 |

# Atlantic States Marine Fisheries Commission

# Draft Public Information Document for Amendment 1 to the Interstate Fishery Management Plan for Tautog

## Introduction

The Atlantic States Marine Fisheries Commission (Commission) is developing an amendment to revise the Interstate Fishery Management Plan for Tautog (FMP). The Commission is responsible for managing tautog through the coastal states of Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Maryland, and Virginia.

This is your opportunity to inform the Commission about changes observed in the fisheries; actions you feel should or should not be taken in terms of management, regulation, enforcement, and research; and any other concerns you have about the resource or the fisheries, as well as the reasons for your concerns.

## Management Issues

The Tautog FMP was approved in March 1996. Since the FMP was implemented, the tautog fishery has experienced changes in stock status, as well as management measures that are used to control harvest of the resource. Based on the 2015 Benchmark Stock Assessment and Peer Review Report, tautog is overfished and overfishing is occurring on a coastwide scale.

The 2015 Benchmark Stock Assessment and Peer Review Report suggested the delineation of separate, regional stock units as management areas. The Tautog Management Board accepted the 2015 assessment for management use, but expressed concern with the proposed stock delineations that would split Long Island Sound into two regions with potentially different regulations. In the absence of conclusive biological evidence to delineate the regional boundaries, the Board decided to initiate a plan amendment to consider the management implications of regionalization and delineate regions for future management.

## Purpose of the Public Information Document

The purpose of this document is to inform the public of the Commission's intent to gather information concerning the tautog fishery and to provide an opportunity for the public to identify major issues and alternatives relative to the management of this species. In addition, this document seeks specific input from the public on the selection of regional stock areas for management use. Input received at the start of the amendment development process can have a major influence on the final outcome of the amendment. This document is intended to draw out observations and suggestions from fishermen, the public, and other interested parties, as well as any supporting documentation and additional data sources.

To facilitate public input, this document provides a broad overview of the issues already identified for consideration in the amendment; background information on the tautog population,

fisheries, and management; and a series of questions for the public to consider about the future management of the species. In general, the primary question on which the Commission is seeking public comment is: **"How would you like the tautog fishery to look in the future? And, more specifically, what do you think is the best regional breakdown for tautog management moving forward?"**

## Background on Tautog Management

The FMP for Tautog *(Tautoga onitis)* was approved in 1996 (ASMFC, 1996), with the goals of conserving the resource along the Atlantic coast and maximizing long-term ecological benefits, while maintaining the social and economic benefits of recreational and commercial utilization.

The FMP required a minimum size limit to increase the spawning stock biomass and yield to the fishery. It also included fishing mortality targets intended to prevent overfishing. The FMP established a 14" minimum size limit and a target fishing mortality of F = 0.15. The target F was a significant decrease from the 1995 stock assessment terminal year fishing mortality rate in excess of F = 0.70, so a phased in approach to implementing these regulations was established. Northern states (Massachusetts through New Jersey) were to implement the minimum size and achieve an interim target of F = 0.24 by 1997, while southern states (Delaware through North Carolina) had until 1998 to do the same. All states were then required to achieve the target F = 0.15 by 1999.

Several changes were made to the management program under the FMP's adaptive management provisions in response to changes in the fishery and the latest stock assessment information, as described below.

**Addendum I (1997)** delayed implementation of the interim $F_{target} = 0.24$ until 1998, at which time the states would be required to reduce to $F_{target} = 0.15$ by 2000. It also established *de minimis* specifications.

**Addendum II (1999)** further extended the deadline to achieve the F = 0.15 target until 2002. In the interim, data were collected to conduct a stock assessment to determine the extent of reductions needed by each state to meet the F = 0.15 target.

**Addendum III (2002)** modified the F target to $F_{40\%SSB} = 0.29$ and mandated each state collect a minimum of 200 age samples per year to improve future stock assessments.

**Addendum IV (2007)** modified the F target to F = 0.20, and established biomass reference points for the first time as $SSB_{target}$ = 59,083,886 lbs. and 75% of this value as $SSB_{threshold}$ = 44,312,915 lbs.

**Addendum V (2007)** allowed states flexibility in achieving the F target through reductions in commercial harvest, recreational harvest, or some combination of both. A Massachusetts-Rhode Island model indicated regional F was lower than the coastwide target, therefore these two states were not required to implement management measures to reduce F.

**Addendum VI (2011)** established a new $F_{target} = 0.15$. All states adopted higher minimum size limits exceeding the FMP's minimum requirement of 14" in addition to other measures, such as possession limits, seasonal closures, and gear restrictions (See Table 2A-B). Massachusetts and Rhode Island, again, demonstrated a lower regional F and these states were not required to implement changes to their regulations.

**Summary of Stock Status**

The 2015 Benchmark Stock Assessment, which considered data through 2012, determined that tautog is overfished and overfishing is occurring on a coastwide basis (Massachusetts – North Carolina). The estimated three-year (2011-2013) fishing mortality is F = 0.30, well-above the $F_{target} = 0.10$, see Table 2 on page 8.

*Stock Definition*

Unlike previous assessments, which assessed the stock on a coastwide basis, the 2015 Benchmark Stock Assessment evaluated stock status regionally to reflect differences in life history characteristics and harvest patterns. The assessment offers two regional alternatives to assess and manage tautog.

**Table 1. Proposed stock definitions**

| Current Stock Definition | Alternative 1 (3 stocks) | Alternative 2 (3 stocks) |
|---|---|---|
| Single Stock: Massachusetts–North Carolina | Massachusetts–Connecticut | Massachusetts–Rhode Island |
| | New York–New Jersey | Connecticut–New Jersey |
| | Delaware–North Carolina | Delaware–North Carolina |

The only difference between alternative 1 and 2 is the placement of Connecticut. The Peer Review Panel and the Technical Committee supported use of either regional approach (i.e., Alternative 1 or 2) since they reduce the risk of overfishing and account for the non-migratory nature of tautog. Stock status by region can be found in Table 2 on page 8.

*Life History and Biological Overview*

Age and growth studies indicate tautog are slow-growing, long-lived species that aggregate around structured habitats with a preferred home site. This unique life history makes it vulnerable to overfishing and slow to rebuild.

Fish as old as 30 years have been caught in Rhode Island, Connecticut, and Virginia, but most of the fish caught are four to eight years old. The species is believed to reach sexual maturity between the ages of three to four (Chenoweth, 1963, White, 1996).

Fecundity, which is the number of eggs produced by a female per spawning event, is strongly related to female size, with larger females producing significantly more eggs than smaller females. A 22-year trawl survey in Long Island Sound, demonstrated a decrease in abundance and a shift in the size structure of the population to smaller fish (LaPlante and Schultz, 2007).

*Management Unit*

Under the FMP, the management unit is defined as all US territorial waters of the northwest Atlantic Ocean (0 – 3 miles from shore) and from US/Canadian border to the southern end of the species range. Currently, all states from Massachusetts through Virginia have a declared interest in the species. While the stock ranges from Massachusetts through North Carolina, North Carolina has such minimal landings it did not declare interest in being part of the management unit. Additionally, Delaware maintains *de minimus* status, and is therefore exempt from certain regulatory and monitoring requirements.

**Description of the Fishery**

Tautog are targeted by both commercial and recreational fisheries, but approximately 90% of the total harvest comes from the recreational fishery. Rod and reel are the predominant commercial gear, although floating fish traps, fish pots, and otter trawl harvest are also used. Current management measures for the recreational fishery are presented in Table 3A; regulations for the commercial fishery are in Table 3B.

*Recreational Fishery*

Recreational harvest estimates are available for 1981 to 2014. In 1986, anglers harvested a historical high of 16.9 million pounds (lbs.). Since then harvest has generally declined. Both 1998 and 2011 had the lowest harvest, at 1.5 million lbs. On average, the recreational harvest was 3.3 million lbs. between 2000 and 2014. In 2014, recreational fishermen harvested more than 950,000 fish weighing a total of 4.2 million lbs., an increase from the 2011-2013 average recreational harvest of approximately 500,000 fish per year across a three year landing average of 1.96 million lbs.

Historically, recreational harvest is mostly attributed to New York and New Jersey, which together account for 41.9% of total harvest from 1981-2011 (Figure 1). Since 2012, the majority of recreational landings (53.9%) are attributed to Connecticut and New York (Figure 2).

On the state level, Connecticut anglers harvested the most tautog, bringing in 289,829 tautog weighing a total of 1,470,133 lbs. in live weight in 2014. New York harvested the second largest amount with 263,962 fish weighing a total of 1,211,285 lbs. Maryland anglers landed the fewest tautog, with 3,851 fish (Table 4).

In an attempt to protect spawners many states chose to limit the spring fishery starting in 1998, thereby shifting the majority of the recreational harvest to November-December. Anglers on private/rental boats comprise 70% of total harvest, the remaining 30% is split relatively evenly among the shore mode and for-hire (party/charter boat) mode.

*Commercial Fishery*

Commercial landings data exist for 1950 to present. In 1987, commercial landings peaked at nearly 1.16 million pounds and steadily declined to a low of 208,000 pounds in 1999. Since 2000, commercial landings have varied without trend, ranging from approximately 238,067 to

351,449 lbs. (Table 5). The ex-vessel value for tautog has increased since the historic low of $0.03/lbs. in 1962, along with the increasing landings trend. In 2012, value surpassed $3/lbs.

Monthly landings back to 1990 indicate approximately 30% of the annual commercial harvest occurs during May-June, and again during October-November. Harvest is lowest during January-March, when less than 5% of the annual commercial catch occurs. The commercial harvest is roughly evenly split among the remaining months.

Since 1982, commercial landings have been dominated by Massachusetts, Rhode Island, and New York, each averaging more than 20% of coastwide harvest. New Jersey and Connecticut account for the majority of the remaining harvest, averaging 15% and 8%, respectively.

## Issues for Public Comment

Public comment is sought on five issues that are being considered in Draft Amendment 1. The issues listed below are intended to focus the public comment and provide the Board input necessary to develop Draft Amendment 1. The public is encouraged to submit comments on the issues listed below as well as other issues that may need to be addressed in Draft Amendment 1.

### *ISSUE 1: STOCK MANAGEMENT AREAS*

**Statement of the Problem**

The tautog management unit consists of all states from Massachusetts through North Carolina. Tagging studies indicate tautog are non-migratory and have a preferred home site. It is recognized that effective assessment and management can be enhanced through the delineation of separate, regional stock management areas. This would also allow the inclusion of biological and harvest data at a finer regional scale. Managers are seeking input on how the stock management areas should be defined in the new amendment. Meaning, what should the boundaries be for each area?

**Management Options**

In order to streamline the amendment process, managers are seeking public comment on a stock delineation approach through the PID, with the intention of using these comments to choose one of the below options for the development of draft Amendment. Comments are encouraged on the following stock management area options (Table 2).

**Table 2. Stock status for the proposed stock management area options**

| Stock Region | Stock Status | SSB Target (lbs.) | SSB Threshold (lbs.) | SSB 2013** (lbs.) | F Target | F Threshold | F 2011-13 Average ** |
|---|---|---|---|---|---|---|---|
| **OPTION 1 (STATUS QUO)** | | | | | | | |
| **Coastwide (Massachusetts to Virginia)** | Overfished Experiencing Overfishing | 45,441,681 | 34,081,261 | **10,762,968** | 0.10 | 0.13 | **0.30** |
| **OPTION 2** | | | | | | | |
| **Massachusetts, Rhode Island, Connecticut** | Overfished Experiencing Overfishing | 8,560,550 | 6,419,861 | **3,999,185** | 0.15 | 0.20 | **0.48** |
| **New York, New Jersey** | Overfished Not Experiencing Overfishing | 7,870,503 | 5,820,204 | **4,854,579** | 0.17 | 0.26 | **0.24** |
| **Delaware, Maryland, Virginia*** | Overfished Not Experiencing Overfishing | 4,607,661 | 3,483,304 | **3,377,482** | 0.16 | 0.24 | **0.16** |
| **OPTION 3** | | | | | | | |
| **Massachusetts, Rhode Island** | Overfished Experiencing Overfishing | 5,804,771 | 4,354,130 | **3,553,852** | 0.16 | 0.19 | **0.38** |
| **Connecticut, New York, New Jersey** | Overfished Experiencing Overfishing | 11,375,853 | 8,642,121 | **5,200,705** | 0.17 | 0.24 | **0.34** |
| **Delaware, Maryland, Virginia*** | Overfished Not Experiencing Overfishing | 4,607,661 | 3,483,304 | **3,377,482** | 0.16 | 0.24 | **0.16** |

* North Carolina is also considered part of the Delaware, Maryland and Virginia stock unit, but it has not declared interest in the management of tautog.

**Red numbers indicate the stock is overfished or overfishing is occurring; yellow is cautionary; green is within management limits

***ISSUE 1: STOCK MANAGEMENT AREAS (Cont.)***

**The difference between Option 2 and Option 3 is the placement of Connecticut.** By grouping Connecticut with the Southern New England states under Option 2, tautog found in Long Island Sound (LIS) will be divided into two separate stock units. This may result in differing management measures for Connecticut and New York within the LIS.

An analysis of data from the Marine Recreational Information Program (MRIP) from 2004-2014 showed Connecticut catch coming primarily from LIS; and most New York catch being split between open water (~35%) and LIS (~57%), thereby emphasizing the shared fishery resource between New York and Connecticut. In addition, Rhode Island catch is coming primarily from Narragansett Bay; and New Jersey catch is coming primarily from open water.

**Management Question**

- Do you support option 1 (status quo), option 2 or option 3?

***ISSUE 2: FISHERY MANAGEMENT PLAN GOALS AND OBJECTIVES***

**Statement of the Problem**

The goals and objectives for this management program are being reviewed to ensure they are consistent with the needs of the tautog fishery and resource. Should the goals and objectives of the FMP be revised?

The current goals and objectives as outlined in the FMP:

***GOALS***

A. To perpetuate and enhance stocks of tautog through interstate fishery management so as to allow a recreational and commercial harvest consistent with the long-term maintenance of self-sustaining spawning stocks
B. To maintain recent (i.e. 1982-1991) utilization patterns and proportions of catch taken by commercial and recreational harvesters
C. To provide for the conservation, restoration, and enhancement of tautog critical habitat for all life history stages
D. To maintain a healthy age structure

E. To conserve the tautog resource along the Atlantic coast to preserve ecological benefits such as biodiversity and reef community stability, while maintaining the social and economic benefits of commercial and recreational utilization

***OBJECTIVES***

A. To establish criteria, standards, and procedures for plan implementation as well as determination of state compliance with FMP provisions
B. To allow harvest that maintains spawning stock biomass (SSB) in a condition that provides for perpetuation of self-sustaining spawning stocks in each spawning area, based on maintain young-of-the-year indices, SSB, size and age structure, or other measures of spawning success at or above historical levels as established in the plan
C. To achieve compatible and equitable management measures among jurisdictions throughout the fishery management unit
D. To enact management recommendations which apply to fish landed in each state, so that regulations apply to fish caught both inside and outside of state waters
E. To promote cooperative interstate biological, social, and economic research, monitoring and law enforcement
F. To encourage sufficient monitoring of the resource and collection of additional data, particularly in the southern portion of the species range, that are necessary for development of effective long-term management strategies and evaluation of the management program. Effective stock assessment and population dynamics modeling require more information on the status of the resource and the biology/community/ecology of tautog than is currently available, in particular to facilitate calculation of F and stock trends
G. To identify critical habitats and environmental factors that support or limit long-term maintenance and productivity of sustainable tautog populations
H. To adopt and promote standards of environmental quality necessary to the long-term maintenance and productivity of tautog throughout their range
I. To develop strategies that reduce fishing mortality, restore stock size composition and the historical

recreational/commercial split, consider ecological and socio-economic impacts and identify problems associated with the offshore fishery. Compatible regulations between the states and the EEZ are essential

***ISSUE 2: FISHERY MANAGEMENT PLAN GOALS AND OBJECTIVES (Cont.)***

**Management Questions**

- Are these goals and objectives still appropriate for the tautog fishery and resource?
- What changes to the goals and objectives need to be made to reflect the needs of the fishery and the resource?
- Which five objectives do you feel are the most important?

***ISSUE 3: MANAGEMENT MEASURES***

**Background**

Current management measures for the recreational fishery are presented in Table 3A; regulations for the commercial fishery are in Table 3B. The recreational fishery is managed with minimum size limits (15-16" depending on the state), possession limits (3-6 fish per person per day depending on the state and season), and seasonal closures. The commercial fishery is managed with quotas, gear restrictions, minimum size limits, possession limits and seasonal closures.

**Management Questions**

- Do you support the use of regional management measures?
- What are the most effective management measures in place?
- Are there management measures that can be improved upon to better achieve management goals and objectives?
- Are there additional state management efforts that should be included in the FMP?

***ISSUE 4: REFERENCE POINTS AND REBUILDING TIMEFRAMES***

**Statement of the Problem**

Based on the 2015 stock assessment, tautog is overfished and overfishing is occurring on a coastwide basis. To increase SSB and yield to the fishery, the draft amendment will consider new reference points and stock rebuilding timeframes to guide management within regional stock management areas (outlined previously in issue 1).

**Management Questions**

- Do you support the ability to change reference points based on the latest peer-reviewed stock assessment recommendations without the need of a management document?
- Do you support the use of regional reference points?
- Do you support stock rebuilding timeframes that correspond to the needs of each regional management area (i.e. timeframes that are based upon respective stock condition relative to their regional reference points)?

***ISSUE 5: OTHER ISSUES***

As stated earlier in this document, the intent of the PID is to solicit comments on a broad range of issues for consideration in Draft Amendment 1. The public comment should generally focus on **"How would you like the tautog fishery and resource to look in the future?"** The Board is interested in hearing from the public on all issues associated with the fishery and resource. Comments should not be limited to issues included in this document.

Issues that have been discussed by stakeholders, scientists, and managers regarding the future of the fishery, include:

A. *Adaptive management to achieve the goals and objectives*
    a. Adaptive management provides the Board with the ability to make timely changes to the management program based on changes to the fishery or resource. These changes could be addressed through the addendum process, which typically takes 3-6 months to finalize versus the amendment process, which typically takes12-16 months to finalize. Examples of issues addressed under adaptive management are: size limits, possession limits, seasonal closures, area closures, and creation of special management zones (to name a few).

B. *Landings and biological monitoring requirements*
    a. The 2015 benchmark stock assessment made a number of monitoring recommendations to improve understanding of tautog life history and stock dynamics, as well as aid in development of future stock assessments. High priority needs include improved biological sampling of the commercial and recreational

catch, better sampling of the smallest and largest fish, improved characterization of the lengths of discarded or released fish, and development of a comprehensive fishery-independent survey that is more appropriate for a reef-oriented species, such as a pot or trap survey.

*C. Illegal fishing of undersized tautog*

a. Commercial demand
    i. There is demand for undersized live tautog in seafood restaurant businesses, primarily Asian markets in large cities, with a premium price for those who can manage to catch and transport these fish to a retailer alive. The preferred fish size is 12", well below the minimum legal size for most states (i.e., 15-16" depending on the state).
b. Recreational demand
    i. Law enforcement have noted a significant number of hook and line fisherman using tautog (almost always undersize) as live bait for species such as striped bass.

***ISSUE 5: OTHER ISSUES (Cont.)***

**Management Questions**

- Do you support the use of adaptive management to meet the goals and objectives of the fishery?
- Do you support increased monitoring to improve our understanding of tautog life history and stock dynamics as well as aid in development of future stock assessments?
- Are undersized tautog harvested for recreational bait or the live fish market in your state? If so, is this a concern to you?
- As a structure orientated species, do you have regional habitat recommendations, recognizing that the Commission and the states have limited regulatory authority for habitat?
- What other changes should be made to the tautog fishery that are not covered by the topics included in this document?

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Chenoweth, S. 1963. Spawning and fecundity of the tautog, *Tautoga onitis*. M.S. thesis. University of Rhode Island. North Kingston, RI, 60 p.

LaPlante, L.H. and Eric Schultz. 2007. Annual Fecundity of Tautog in Long Island Sound: Size Effects and Long-Term Changes in a Harvested Population. American Fisheries Society 136: 1520-1533.

White, G.G. 1996. Reproductive Biology of Tautog, *Tautoga onitis*, in the Lower Chesapeake Bay and Coastal Waters of Virginia. M.S. Thesis. The College of William and Mary.

**Table 3A. Recreational regulations for tautog by state**

| STATE | SIZE LIMIT (inches) | POSSESSION LIMITS (number of fish/person/day) | OPEN SEASONS |
|---|---|---|---|
| Massachusetts | 16” | 3 | Jan 1 – Dec 31 |
| Rhode Island | 16” | 3 | Apr 15 – May 31 |
| | | 3 | Aug 1 – Oct 15 |
| | | 6 (up to 10 per vessel) | Oct 16- Dec 15 (private) |
| | | 6 | Oct 20 – Dec 15 (party, charter) |
| Connecticut | 16” | 2 | Apr 1-Apr 30 |
| | | 2 | July 1 – Aug 31 |
| | | ~~4~~ | Oct 10 – Dec 6 |
| New York | 16” | ~~4~~ | Oct 5 – Dec 14 |
| New Jersey | 15” | ~~4~~ | Jan 1 – Feb 28 |
| | | ~~4~~ | Apr 1 – Apr 30 |
| | | 1 | Jul 17 – Nov 15 |
| | | 6 | Nov 16 – Dec 31 |
| Delaware | 15” | 5 | Jan 1 – Mar 31 |
| | | 3 | Apr 1 – May 11 |
| | | 5 | July 17 – Aug 31 |
| | | 5 | Sept 29 – Dec 31 |
| Maryland | 16” | ~~4~~ | Jan 1- May 15 |
| | | 2 | May 16 – Oct 3 |
| | | ~~4~~ | Nov 1 – 26 |
| Virginia | 16" | 3 | Jan 1 - Apr 15 |
| | | | Sept 24 - Dec 31 |
| North Carolina | - | - | - |

**Table 3B. Commercial regulations for tautog by state**

| STATE | SIZE LIMIT | POSSESSION LIMITS (number of fish) | OPEN SEASONS | QUOTA (pounds) | GEAR RESTRICTIONS* |
|---|---|---|---|---|---|
| Massachusetts | 16” | 40 | April 14-May 16<br>Sept 1-Oct 31 | 61,180* | Mandatory pot requirements. Limited entry and area/time closures for specific gear types. |
| Rhode Island | 16” | 10 | Apr 15 - May 30<br>Aug 1 - Sept 15<br>Oct 15 - Dec 31 | 51,348<br>(17,116 per season) | Harvest allowed by permitted gear types only. |
| Connecticut | 16” | 10 | Apr 1- Apr 30<br>Jul 1 - Aug 31<br>Oct 8 - Dec 24 | NA | Mandatory pot requirements. |
| New York | 15” | 25 (10 fish w/ lobster gear and when 6 lobsters are in possession) | Jan 1 - Feb 28<br>Apr 8 –Dec 31 | - | Mandatory pot requirements. Gill or trammel net is prohibited. |
| New Jersey | 15” | > 100 lbs requires directed fishery permit | Jan 1 - 15<br>June 11 - 30<br>Nov 1 - Dec 31 | 103,000 | Mandatory pot requirements. |
| Delaware | 15” | 5<br>3<br>5<br>5 | Jan 1 - Mar 31<br>Apr 1 - May 11<br>July 17 - Aug 31<br>Sept 29 - Dec 31 | - | Mandatory pot requirements. |
| Maryland | 16” | 4<br>2<br>4 | Jan 1- May 15<br>May 16 - Oct 31<br>Nov 1 - 26 | - | Mandatory pot requirements. |
| Virginia | 15” | - | Jan 1 – Jan 17<br>Mar 16 – Apr 30<br>Nov 13 – Dec 31 | - | Mandatory pot requirements. Pots prohibited in tidal waters. |
| North Carolina | - | - | - | - | Mandatory pot requirements. |

**Table 4. Recreational harvest (A+B1) in tautog in pounds, 1981-2014 (MRIP)**

| Year | MA | RI | CT | NY | NJ | DE | MD | VA | NC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **1981** | 790,610 | 664,568 | 242,337 | 1,496,039 | 161,423 | 6,584 | 10,296 | 742,653 | 536 | 4,115,046 |
| **1982** | 3,226,868 | 777,930 | 610,608 | 1,674,949 | 1,241,155 | 428,036 | 90,645 | 271,919 | 15,849 | 8,337,959 |
| **1983** | 1,837,262 | 615,595 | 458,582 | 1,124,844 | 414,957 | 4,437 | 6,551 | 1,267,165 | 20,144 | 5,749,537 |
| **1984** | 733,876 | 1,809,822 | 733,710 | 541,805 | 717,261 | 95,740 | 79,110 | 669,869 | NA | 5,381,193 |
| **1985** | 328,041 | 277,384 | 471,185 | 2,034,903 | 741,656 | 144,859 | 1,107 | 298,797 | 7,154 | 4,305,086 |
| **1986** | 7,862,584 | 2,042,584 | 838,346 | 2,833,208 | 2,132,571 | 264,744 | 10,049 | 918,138 | 4,173 | 16,906,397 |
| **1987** | 1,751,372 | 507,424 | 1,106,606 | 2,288,076 | 2,130,955 | 387,075 | 266,094 | 442,751 | 8,430 | 8,888,783 |
| **1988** | 2,255,930 | 612,123 | 610,171 | 2,380,285 | 1,331,833 | 249,803 | 446,947 | 1,410,003 | 4,605 | 9,301,700 |
| **1989** | 1,076,366 | 296,889 | 1,038,217 | 1,018,015 | 1,289,185 | 743,339 | 78,391 | 806,336 | 31,012 | 6,377,750 |
| **1990** | 895,327 | 389,579 | 200,000 | 1,980,289 | 1,256,488 | 142,627 | 59,720 | 229,442 | 2,703 | 5,156,175 |
| **1991** | 798,889 | 1,007,549 | 648,634 | 2,352,646 | 2,189,144 | 354,498 | 106,223 | 619,214 | 24,645 | 8,101,422 |
| **1992** | 1,668,485 | 656,712 | 1,048,639 | 1,199,558 | 2,485,693 | 183,854 | 159,730 | 255,995 | 12,559 | 7,671,225 |
| **1993** | 752,598 | 389,733 | 531,023 | 1,800,794 | 1,361,612 | 217,881 | 105,231 | 758,410 | 9,738 | 5,927,020 |
| **1994** | 373,189 | 328,668 | 417,438 | 585,037 | 330,551 | 152,033 | 177,358 | 1,101,130 | 2,708 | 3,468,112 |
| **1995** | 309,224 | 237,093 | 402,616 | 369,643 | 1,722,713 | 793,339 | 115,993 | 613,348 | 3,405 | 4,567,374 |
| **1996** | 397,284 | 248,840 | 245,816 | 193,045 | 1,123,174 | 158,751 | 26,483 | 778,315 | 13,191 | 3,184,899 |
| **1997** | 166,042 | 301,109 | 84,297 | 331,529 | 483,639 | 204,419 | 182,995 | 391,258 | 58,751 | 2,204,039 |
| **1998** | 96,695 | 316,339 | 231,622 | 208,743 | 41,431 | 257,348 | 27,648 | 273,515 | 26,420 | 1,479,761 |
| **1999** | 363,471 | 223,763 | 61,142 | 761,446 | 511,673 | 358,328 | 37,677 | 203,249 | 11,940 | 2,532,689 |
| **2000** | 442,816 | 203,602 | 58,475 | 258,100 | 1,812,960 | 373,581 | 56,126 | 188,187 | 4,502 | 3,398,349 |
| **2001** | 502,247 | 165,380 | 63,157 | 171,927 | 1,482,613 | 159,961 | 72,357 | 127,555 | 4,503 | 2,749,700 |
| **2002** | 521,611 | 265,116 | 447,140 | 2,135,221 | 1,184,560 | 652,007 | 104,246 | 116,797 | 4,448 | 5,431,146 |
| **2003** | 221,843 | 479,345 | 603,861 | 315,384 | 164,327 | 200,618 | 43,212 | 308,838 | 20,512 | 2,357,940 |
| **2004** | 107,905 | 698,737 | 77,219 | 966,022 | 283,109 | 240,288 | 21,633 | 524,251 | 31,226 | 2,950,390 |
| **2005** | 382,866 | 807,715 | 145,342 | 314,691 | 144,423 | 220,642 | 84,538 | 242,650 | 30,277 | 2,373,144 |
| **2006** | 294,785 | 380,009 | 842,213 | 793,999 | 726,554 | 406,499 | 47,484 | 468,246 | 3,204 | 3,962,993 |
| **2007** | 333,668 | 621,747 | 1,384,528 | 823,257 | 1,064,250 | 298,500 | 137,026 | 246,802 | 58,480 | 4,968,258 |
| **2008** | 109,932 | 491,953 | 720,575 | 1,081,693 | 520,100 | 380,729 | 69,331 | 222,485 | 1,535 | 3,598,333 |
| **2009** | 85,414 | 323,717 | 303,047 | 1,431,273 | 408,567 | 387,643 | 108,297 | 268,102 | 18,006 | 3,334,066 |
| **2010** | 162,488 | 923,690 | 412,775 | 502,526 | 1,067,379 | 146,044 | 201,753 | 479,462 | 9,389 | 3,905,506 |
| **2011** | 129,669 | 80,300 | 88,728 | 450,171 | 381,449 | 152,895 | 33,859 | 173,871 | 1,555 | 1,492,497 |
| **2012** | 94,699 | 534,716 | 982,891 | 252,745 | 133,048 | 171,329 | 17,670 | 49,988 | 11,687 | 2,248,773 |
| **2013** | 197,775 | 593,304 | 392,146 | 355,232 | 395,539 | 138,051 | 18,681 | 23,836 | 9,636 | 2,124,200 |
| **2014** | 399,812 | 297,955 | 1,470,133 | 1,211,285 | 579,934 | 187,915 | 3,004 | 121,352 | 9,472 | 4,280,862 |

**Table 5. Commercial landings for tautog in pounds (lbs.), by region, 1981-2012 (NOAA Fisheries and ACCSP)**

| Year | Southern New England | Mid-Atlantic | DelMarVa + North Carolina | Total (Coastwide) |
|---|---|---|---|---|
| **1981** | 193,200 | 135,800 | 2,900 | 331,900 |
| **1982** | 176,800 | 238,600 | 4,156 | 419,556 |
| **1983** | 233,700 | 189,000 | 2,819 | 425,519 |
| **1984** | 435,500 | 232,200 | 9,915 | 677,615 |
| **1985** | 516,600 | 210,000 | 7,770 | 734,370 |
| **1986** | 633,100 | 302,000 | 5,706 | 940,806 |
| **1987** | 829,700 | 320,400 | 7,080 | 1,157,180 |
| **1988** | 718,100 | 343,000 | 9,714 | 1,070,814 |
| **1989** | 666,600 | 337,300 | 12,531 | 1,016,431 |
| **1990** | 582,166 | 280,655 | 10,684 | 873,505 |
| **1991** | 779,943 | 319,435 | 10,733 | 1,110,111 |
| **1992** | 717,758 | 285,343 | 9,071 | 1,012,172 |
| **1993** | 447,993 | 242,941 | 7,506 | 698,440 |
| **1994** | 210,781 | 234,016 | 14,693 | 459,490 |
| **1995** | 150,753 | 188,849 | 35,965 | 375,567 |
| **1996** | 130,723 | 194,901 | 31,810 | 357,434 |
| **1997** | 118,360 | 127,954 | 34,598 | 280,912 |
| **1998** | 118,528 | 111,318 | 24,340 | 254,186 |
| **1999** | 114,670 | 65,193 | 28,962 | 208,825 |
| **2000** | 148,224 | 79,589 | 19,636 | 247,449 |
| **2001** | 162,654 | 122,947 | 19,879 | 305,480 |
| **2002** | 224,861 | 97,410 | 29,178 | 351,449 |
| **2003** | 181,639 | 139,030 | 19,832 | 340,501 |
| **2004** | 150,810 | 127,663 | 22,276 | 300,749 |
| **2005** | 166,235 | 113,688 | 12,271 | 292,194 |
| **2006** | 211,477 | 123,964 | 14,424 | 349,865 |
| **2007** | 189,263 | 136,777 | 14,886 | 340,925 |
| **2008** | 142,054 | 152,529 | 16,357 | 310,940 |
| **2009** | 126,817 | 101,880 | 14,947 | 243,644 |
| **2010** | 136,318 | 142,366 | 9,170 | 287,855 |
| **2011** | 120,000 | 128,626 | 17,758 | 266,384 |
| **2012** | 124,229 | 97,257 | 16,581 | 238,067 |
| **2013** | 129,479 | 118,512 | 15,829 | 263,820 |
| **2014** | 121,740 | 109,591 | 9,817 | 241,148 |

**Figure 1. Recreational landings for tautog by state (1981-2014 average landings)**

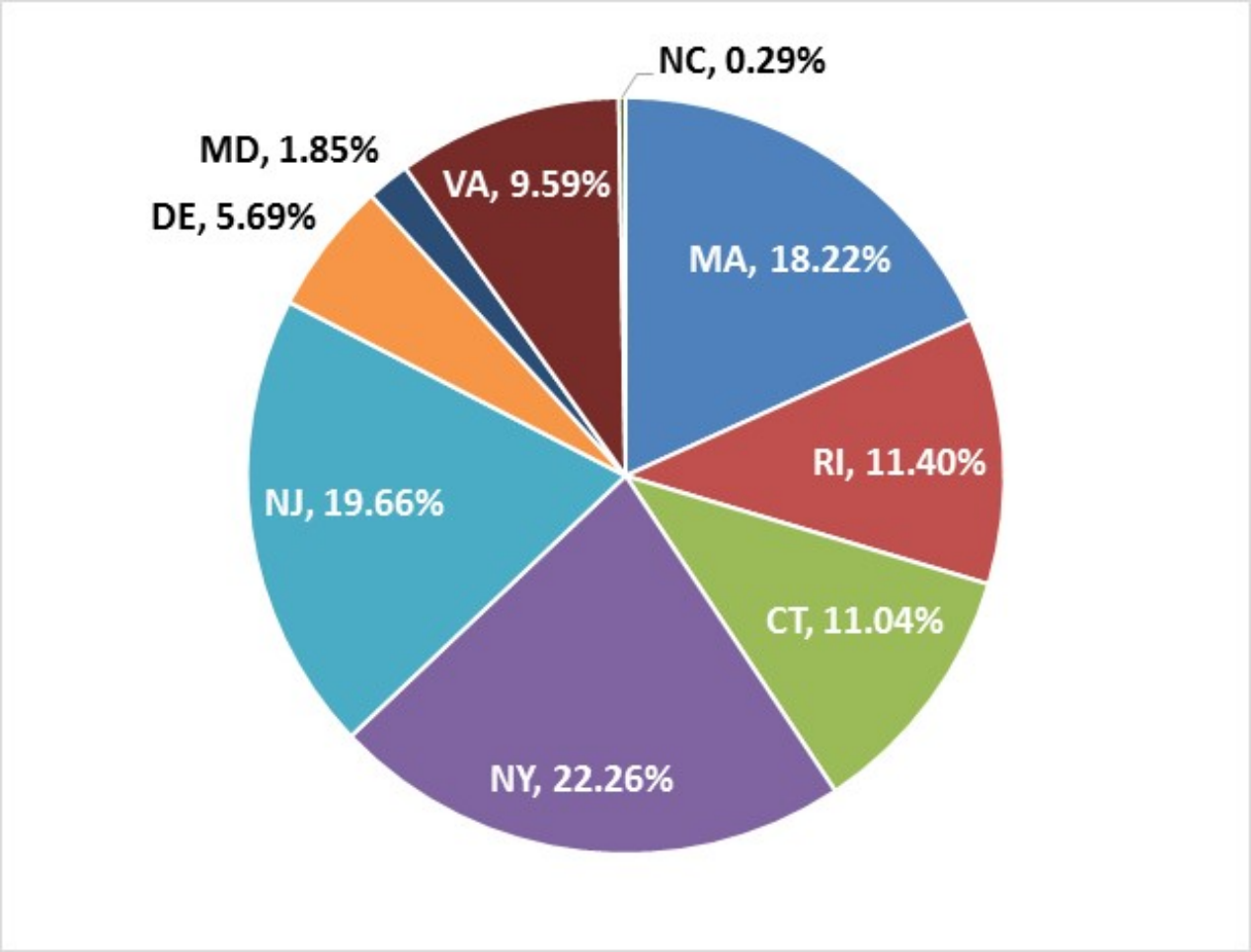
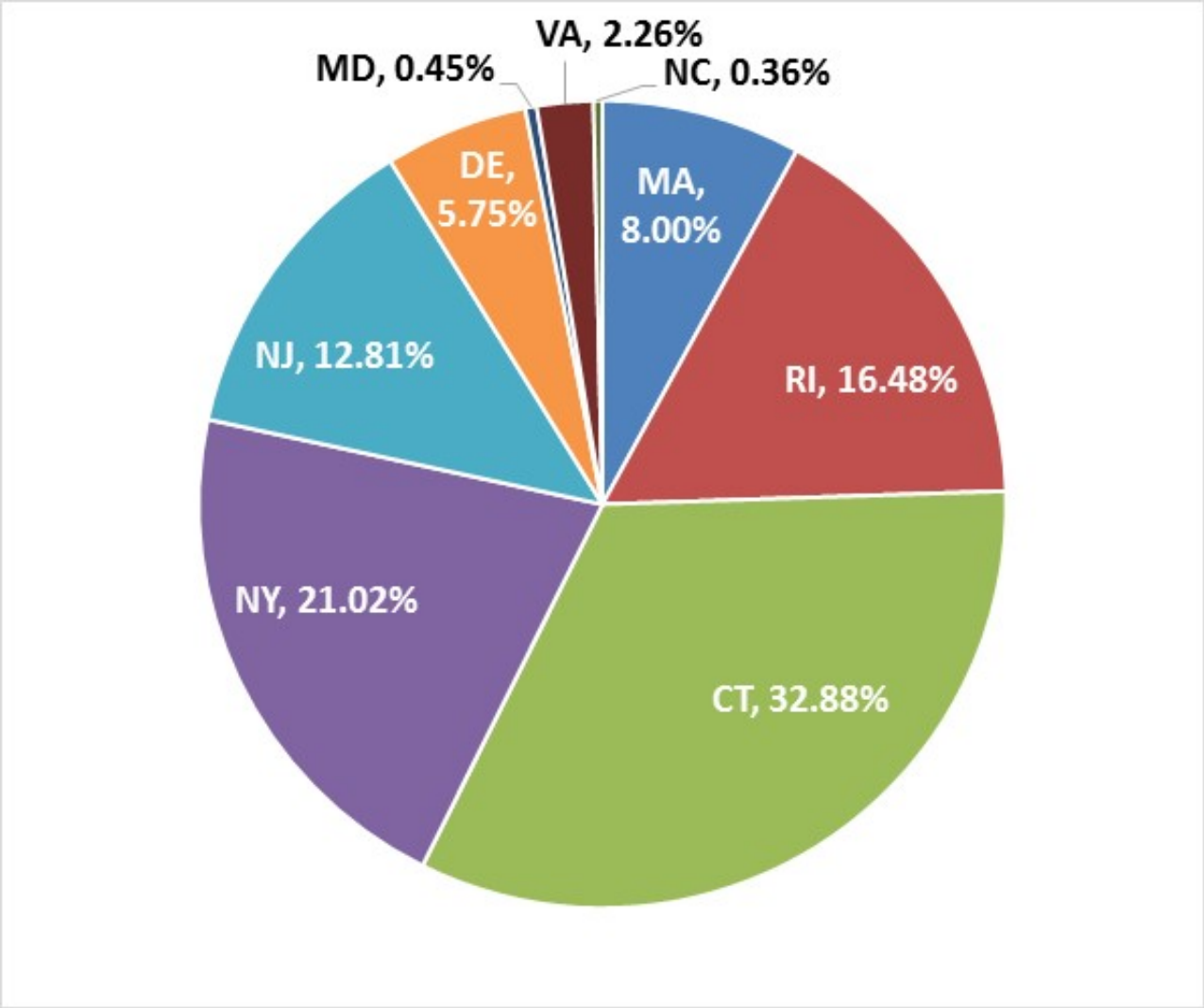


**Figure 2. Recreational landings for tautog by state (2012-2014 average landings)**



July 27, 2015

Douglas Grout, Striped Bass Management Board Chairman
ASMFC
1050 N. Highland Street
Suite 200 A-N
Arlington, VA 22201

Dear Chairman Grout,

I am writing regarding the Technical Committee report (dated July 20, 2015) that was included in the final Summer Meeting materials and addressed the Atlantic Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season. I reviewed the report and my conclusion is that it is not accurate and incorrectly indicates that the state options will meet the 25% harvest reduction called for in Addendum IV.

The TC was tasked with trying to determine the anticipated harvest reduction for the coastal states given the 2015 harvest reduction options that were adopted by the states. In reviewing the state harvest reduction percentages for the recreational sector, in all cases where states adopted the 1@28" option the TC utilized the 31% harvest reduction which originally appeared as Option B1 in the Draft Addendum. The Draft Addendum harvest reduction percentages were **not state specific** reduction estimates, but were **coastal estimates** based on the assumption that **all jurisdictions would adopt** the specific option listed. Only by evaluating the new harvest reductions against the old regulations by state can you derive an accurate overall harvest reduction projection. At the very least the TC report should have noted that the assumptions for the 31% were no longer valid and that the percentage was overstated.

Due to the tight time constraints the Management Board permitted the states to incorporate one of the B options and use the percentages shown in the Draft Addendum even though the assumptions were no longer valid. States that did not choose one of the B options were required and did submit their state specific harvest reductions.

I am not a statistician but it seems highly unlikely that a state like NY that adopted 1@28 regulation would have the same anticipated harvest reductions as other states where 2013 striped bass regulations were different. There must be some variation in the reduction percentages.

- NY coastal goes FROM 1@28" + 1>40" and 2@28 for the for-hire sector TO 1@28
- MA goes FROM 2@28" TO 1@28"
- ME goes FROM 1 fish @20 – 26” OR ≥40” TO 1@28"
- NH goes FROM 1 fish @28–40” & 1 fish >28”TO 1@28"

Each state cannot be at a 31% harvest reduction. The report indicates a 25.6% reduction overall. This has to be incorrect and when you factor in an analysis that assumes 100% compliance (which we all know is overstated). It appears that the states' options, when combined, will fall short of the intended 25% harvest reductions called for in Addendum IV.

264 Fillmore Street, Centerport, NY 11721 rsquire@aol.com

My request to the Striped Bass Management Board is that they task the Technical Committee to come up with the actual projected harvest reduction forecast for the states that adopted the 1@28" regulation. The overall reduction should then be recalculated and made public.

In my opinion, the TC should have ensured that present regulations were appropriately measured against each states' 2013 regulations. Furthermore it would be useful in the management of striped bass if the TC calculates a 10 year average of non-compliance and factors this in as well. In this way, we will have a better measure of what the states and the ASMFC have actually signed up for.

The public and the Striped Bass Management Board deserves to have an actual projection that is based on data that is as accurate as possible.

I appreciate your time and attention.

Sincerely,

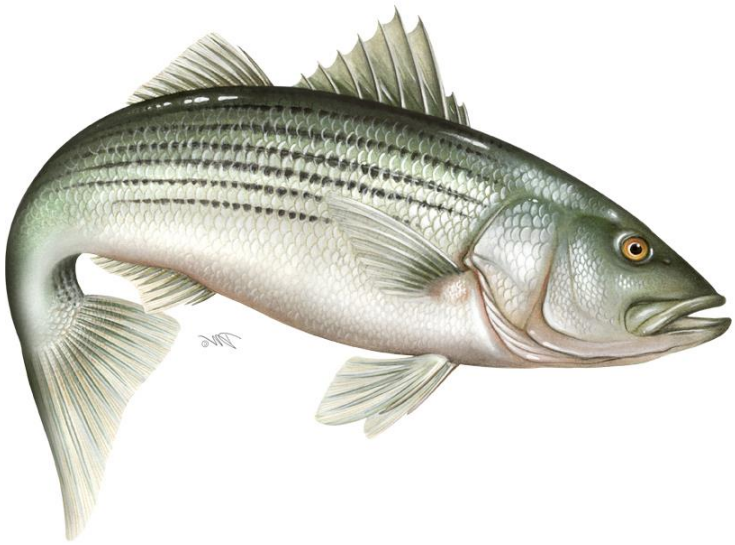
Ross Squire
1@32 Pledge
Fishing Advisory Board: NY State Parks
President, Traditional Surfcasters

264 Fillmore Street, Centerport, NY 11721 rsquire@aol.com

2015 REVIEW OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
FISHERY MANAGEMENT PLAN FOR

# ATLANTIC STRIPED BASS
***(Morone saxatilis)***

2013 AND 2014 FISHING SEASONS



**Atlantic Striped Bass Plan Review Team**
Charlton Godwin, North Carolina Division of Marine Fisheries
Wilson Laney, US Fish and Wildlife Service
Gary Shepherd, National Marine Fisheries Service
Max Appelman, Atlantic States Marine Fisheries Commission, Chair

**Prepared July 28, 2015**

## Executive Summary

Atlantic Striped Bass from Maine through North Carolina are managed under Amendment 6 and Addenda I-IV to the Interstate Fishery Management Plan.

A benchmark stock assessment was peer reviewed by the 57th Stock Assessment Review Committee in July 2013. The 2013 benchmark assessment was approved by the Management Board for management use in October 2013. Addendum IV to Amendment 6 was approved by the Board in October 2014, and implemented prior to the start of the 2015 fishing season. The addendum contained new fishing mortality reference points, and required coastal and Chesapeake Bay states/jurisdictions to reduce removals by 25 and 20.5%, respectively, in order to reduce F to a level at or below the new target.

Total Striped Bass harvest in 2014 is estimated at 2.53 million fish or 30.0 million pounds, which is a 7% decrease by weight and a 12% decrease by number from 2013. The recreational fishery harvested 1.78 million fish (24.06 million pounds) in 2014, while the commercial fishery harvested 766,298 fish (5.94 million pounds). Dead discards from the recreational fishery are estimated at 655,429 fish.

In 2013 and 2014, all states implemented management programs consistent with Amendment 6 and Addenda I-IV. All but one state harvested below their costal commercial quota in 2013. Massachusetts exceeded their quota by 6,591 pounds resulting in an effective quota of 1,153,159 for 2014. All commercial state fisheries harvested below their coastal commercial quotas in 2014. The Chesapeake Bay quota in 2014 was 8.65 million pounds and was not exceeded. In 2015, all commercial fisheries will be allotted quotas as listed in Addendum IV to Amendment 6.

All states have implemented monitoring programs consistent with Amendment 6. Requirements vary by state, and may include monitoring commercial and/or recreational catch, effort, and catch composition, monitoring commercial tagging programs, and performing juvenile abundance surveys, spawning stock surveys, and tagging programs.

For the 2015 review of JAIs the analysis evaluates the 2012, 2013, and 2014 JAI values. No state's JAI met the criteria for recruitment failure, but every state's JAI analysis except Maine has had at least one value within the last three years fall below the Q1 threshold

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## I. Status of the Fishery Management Plan

| | |
|---|---|
| Date of FMP Approval: | Original FMP – 1981 |
| Amendments: | Amendment 1 – 1984<br>Amendment 2 – 1984<br>Amendment 3 – 1985<br>Amendment 4 – 1989; Addendum I – 1991, Addendum II – 1992, Addendum III – 1993, Addendum IV – 1994<br>Amendment 5 – 1995; Addendum I – 1997, Addendum II – 1997, Addendum III – 1998, Addendum IV – 1999, Addendum V – 2000<br>Amendment 6 – 2003; Addendum I – 2007, Addendum II – 2010, Addendum III – 2012, Addendum IV – 2014 |
| Management Unit: | Migratory stocks of Atlantic Striped Bass from Maine through North Carolina |
| States With Declared Interest: | Maine - North Carolina, including Pennsylvania |
| Additional Jurisdictions: | District of Columbia, Potomac River Fisheries Commission, National Marine Fisheries Service, United States Fish and Wildlife Service |
| Active Boards/Committees: | Atlantic Striped Bass Management Board, Advisory Panel, Technical Committee, Stock Assessment Subcommittee, Tagging Subcommittee, Plan Review Team, and Plan Development Team |

The Atlantic States Marine Fisheries Commission (Commission) developed a fisheries management plan (FMP) for Atlantic Striped Bass in 1981 in response to declining juvenile recruitment and landings. The FMP recommended increased restrictions on commercial and recreational fisheries, such as minimum size limits and harvest closures on spawning grounds. Two amendments were passed in 1984 recommending additional management measures to reduce fishing mortality. To strengthen the management response and improve compliance and enforcement, the Atlantic Striped Bass Conservation Act (P.L. 98-613) was passed in late 1984, which mandated the implementation of Striped Bass regulations passed by the Commission, and gave the Commission authority to recommend to the Secretaries of Commerce and Interior that states be found out of compliance when they failed to implemented management measures consistent with the FMP.

The first enforceable plan, Amendment 3, was approved in 1985, and required size regulations to protect the 1982 year class, which was the first modest size cohort since the previous decade. The objective was to increase size limits to allow at least 95% of the females in the cohort to spawn at least once. Smaller size limits were permitted in producer areas than along the coast. Several states, beginning with Maryland in 1985, opted for a more conservative approach and imposed a total moratorium on Striped Bass landings for several years. The amendment contained a trigger mechanism to reopen the fisheries when the 3-year moving average of the Maryland juvenile abundance index (JAI) exceeded an arithmetic mean of 8.0. That level was attained with the recruitment of the 1989 year class.

Consequently, Amendment 4 was adopted to allow state fisheries to reopen in 1990 under a target fishing mortality (F) of 0.25, which was half the estimated F needed to achieve maximum sustainable yield (MSY). The amendment allowed an increase in the target F once spawning stock biomass (SSB) was restored to levels estimated during the late 1960s and early 1970s. The dual size limit concept was maintained, and a recreational trip limit and commercial season implemented to reduce the harvest to 20% of that in the historic period of 1972-1979. The amendment and its four addenda aimed to rebuild the resource, rather than maximize yield.

In 1995, coastal Striped Bass were declared restored by the Commission, and Amendment 5 was adopted to increase the target F to 0.33, midway between the existing F target (0.25) and $F_{MSY,}$ which was revised to 0.40. Regulations were developed to allow 70% of the historic harvest and achieve the target F, although states were allowed to submit proposals for alternative regulations that were conservationally equivalent. From 1997-2000, a series of five addenda were implemented to respond to the latest stock status information. The Albemarle/Roanoke stock of Striped Bass, currently assessed independently by the State of North Carolina and managed under a separate North Carolina's Fishery Management Plan, was declared restored in 1997.

In 2003, Amendment 6 was adopted to address five limitations within the management program: 1) potential inability to prevent the Amendment 5 exploitation target from being exceeded; 2) perceived decrease in availability or abundance of large Striped Bass in the coastal migratory population; 3) a lack of management direction with respect to target and threshold biomass levels; 4) inequitable effects of regulations on the recreational and commercial fisheries, and coastal and producer area sectors; 5) and excessively frequent changes to the management program. Amendment 6 was fully implemented by January 1, 2004, and completely replaced all previous Commission plans for Atlantic Striped Bass.

The goal of Amendment 6 is to perpetuate, through cooperative interstate management, migratory stocks of Striped Bass; to allow commercial and recreational fisheries consistent with the long-term maintenance of a broad age structure, a self-sustaining spawning stock; and also to provide for the restoration and maintenance of their essential habitat. In support of this goal, the following objectives are included:

- Manage Striped Bass fisheries under a control rule designed to maintain stock size at or above the target female spawning stock biomass level and a level of fishing mortality at or below the target exploitation rate.
- Manage fishing mortality to maintain an age structure that provides adequate spawning potential to sustain long-term abundance of Striped Bass populations.
- Provide a management plan that strives, to the extent practical, to maintain coastwide consistency of implemented measures, while allowing the States defined flexibility to implement alternative strategies that accomplish the objectives of the FMP.
- Foster quality and economically viable recreational, for-hire, and commercial fisheries.
- Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.

- Adopt a long-term management regime that minimizes or eliminates the need to make annual changes or modifications to management measures.
- Establish a fishing mortality target that will result in a net increase in the abundance (pounds) of age 15 and older Striped Bass in the population, relative to the 2000 estimate.

Amendment 6 modified the F targets and thresholds, and introduced a new set of biological reference points (BRPs) based on females spawning stock biomass (SSB), as well as a list of management triggers based on the BRPs. (The targets and thresholds were updated in 2008; see Sections II and IV for more information.) The coastal commercial quotas for Striped Bass were restored to 100% of the states' average landings during the 1972-1979 historical period, except for Delaware's coastal commercial quota, which remained at the level allocated in 2002. In the recreational fisheries, all states were required to implement a two fish bag limit with a minimum size limit of 28 inches, except for the Chesapeake Bay fisheries, fisheries that operate in the Albemarle Sound and Roanoke River, and states with approved alternative regulations. The Chesapeake Bay and Albemarle/Roanoke regulatory programs were predicated on a more conservative F target than the coastal migratory stock, which allowed these jurisdictions to implement separate seasons, harvest caps, and size and bag limits as long as they remain under that F target. No minimum size limit can be less than 18 inches under Amendment 6. The same minimum size standards regulate the commercial fisheries as the recreational fisheries, except for a minimum 20 inch size limit in the Delaware Bay spring gillnet fishery.

States are permitted the flexibility to deviate from these standards by submitting proposals for review by the Striped Bass Technical Committee, Advisory Panel, and Plan Review Team and contingent upon the approval of the Management Board. A state may request a change only if it can demonstrate that the action is "conservationally equivalent" to the management standards or will not contribute to the overfishing of the resource. This practice has resulted in a variety of regulations among states (see Tables 1 and 2).

In 2007, Addendum I was implemented to establish a bycatch monitoring and research program to increase the accuracy of data on Striped Bass discards and also recommend development of a web-based angler education program.

In May 2009, the Management Board initiated the development of an addendum to consider options to roll over unused coastal commercial quota up to fifty percent, and approved sending the draft addendum out for public comment in August 2009. In November 2009, the Board voted for status quo management in regards to unused quota rollover.

In February 2010, the Management Board initiated the development of an addendum to consider options to increase the coastal commercial quota. The Board approved the draft addendum for public comment in May 2010, with the addition of an option to consider adopting a Technical Committee recommendation to revise the JAI management trigger. Adopting the Technical Committee recommendation would modify the definition of recruitment failure, such that each index would have a fixed numerical value indicating failure, rather than one that changes from year to year. The Board approved Addendum II, and the revised JAI management triggers, in November 2010. The new definition of recruitment failure is a value that is below 75% of all values in a fixed time series appropriate to each juvenile abundance index.

In 2012, Addendum III was approved by the Board. This addendum requires all states and jurisdictions with a commercial fishery to implement a commercial harvest tagging program. The addendum was initiated in response to significant poaching events in the Chesapeake Bay and aims to limit illegal harvest of Striped Bass.

The Board approved Addendum IV in 2014 in response to the 2013 benchmark assessment which indicates a steady decline in spawning stock biomass since the mid-2000s. The Addendum establishes new fishing mortality reference points (F target and threshold), and required coastal states to reduce removals in order to reduce F to a level at or below the new target (i.e., 25% reduction from 2013 removals for the coastal fishery and 20.5% reduction from 2012 removals for Chesapeake Bay fishery). Additionally, since the Albemarle/Roanoke stock is thought to contribute minimally to the coastwide complex, Addendum IV differs management of the Albemarle/Roanoke stock to the State of North Carolina using stock-specific BRPs approved by the Management Board.

The Exclusive Economic Zone (EEZ) has been closed to the harvest and possession of Striped Bass since 1990, with the exception of a defined route to and from Block Island in Rhode Island. A recommendation was made in Amendment 6, and submitted to the Secretary of Commerce, to re-open federal waters to commercial and recreational fisheries. Starting in July 2003 and continuing for several years, National Marine Fisheries Service (NMFS) took steps in the rulemaking process to consider the proposal. In September 2006, NMFS concluded that it would be imprudent to open the EEZ to Striped Bass fishing and chose not to proceed further in its rulemaking. Specifically, NMFS concluded that: 1) it could not be certain, especially after taking into account the overwhelming public perception that large trophy sized fish congregate in the EEZ, that opening the EEZ would not increase effort and lead to an increase in mortality that would exceed the threshold, and 2) both the Commission's and NMFS' ability to immediately respond to an overfishing and/or overfished situation is a potential issue, particularly given the timeframe within which Amendment 6 was created, and given the lag time in which a given year's data is available to management (71 FR 54261-54262). Additionally, in October 2007, President George W. Bush issued an Executive Order (E.O. 13449) prohibiting the sale of Striped Bass (and red drum) caught within the EEZ. The Order also requires the Secretary of Commerce to encourage management for conservation of the resources, including State designation as gamefish where the State determines appropriate under applicable law, and to periodically review the status of the populations within US jurisdictional waters. The 2011 report (submitted in 2012) is the most recent report to Congress on the status of the Striped Bass population (NOAA 2012). The 2015 Striped Bass Report to Congress is scheduled for completion at the end of August.

## II. Status of the Stocks

*Atlantic Striped Bass Stocks*

The 2013 benchmark stock assessment was completed by the 57$^{th}$ Stock Assessment Workshop (SAW) and peer reviewed by the Stock Assessment Review Committee (SARC) in July 2013. Based on recommendations by the 47$^{th}$ SAW/SARC in 2007, the statistical catch-at-age (SCA) model in the benchmark assessment was generalized to allow specification of multiple fleets, different stock-recruitment relationships, and year- and age-specific natural mortality rates, among

other things. For this assessment, new fishing mortality (F) reference points were chosen to link the target and threshold F with the target and threshold female spawning stock biomass (SSB). The 2013 assessment, and the new F reference points, were approved by the Board for management use at its October 2013 meeting. The 2013 SCA model was used to estimate fishing mortality, abundance, and spawning stock biomass of Striped Bass during 1982-2012. Based on results of the 2013 benchmark assessment, and comparison to the biological reference points below, Atlantic Striped Bass are not overfished and are not experiencing overfishing.

| | ***Female Spawning Stock Biomass*** | ***Fully-Recruited Fishing Mortality*** |
|---|---|---|
| ***Threshold*** | $SSB_{1995}$ = 57,626 metric tons | $F_{msy}$ = 0.22 |
| ***Target*** | $SSB_{threshold}$ x 1.25 = 72,032 metric tons | 0.18 (Chesapeake Bay and coastal stocks) |

The SCA model estimated female spawning stock biomass (SSB) at 58,238 metric tons (MT) in 2012 which is above the SSB threshold (57,626mt) but well below the target (72,032) (Figure 1). The 2012 estimate of SSB was a decrease from the 2011 estimate of 61,972 MT and SSB estimates have continued to decrease from the time series maximum of 78,544 MT in 2003. Recruitment estimated in the SCA model as age-1 abundance was 140.4 million fish in 2012, which is a 31% increase from the 2011 estimate (106.9 million fish). The 2012 estimate is the first estimate above the 1994-2004 average (120.8 million fish) since 2004 (Figure 2). The average estimated recruitment during 2005-2012, the time period representing the last year that SSB was estimated above the target, was 85.6 million fish. The 2004 recruitment estimate (2003 year class) remains the second largest recruitment estimate since 1982 at 157.5 million fish. The SCA model estimated the 2012 fishing mortality rate (F) on age 8–11 fish to be F=0.19, which is below the fishing mortality threshold but above the target (Figure 3).

Overall, the conclusion is that spawning stock abundance has declined since the 2003 time series high. The decrease in abundance is reflected in a declining trend of coastwide catch from 2007 to present (Figure 4), particularly in recreational discards comprised of smaller fish. Despite the decline in abundance, the spawning stock in 2012 remained relatively high due to the growth and maturation of the 2003 year class and the accumulation of spawning stock biomass from prior year classes.

*Albemarle Sound/Roanoke River Striped Bass Stocks*

The most recent Albemarle Sound/Roanoke River (A/R) stock assessment (data through 2012) utilized the ASAP3 statistical catch at age model. The NC-specific assessment was peer reviewed and approved for management use, as recommended by the Technical Committee, by the Atlantic Striped Bass Management Board at their August 2014 meeting. The model incorporated all commercial and recreational harvest and discard data from the Albemarle Sound and Roanoke River Management Areas (ASMA and RRMA), as well as abundance data for the A/R stock from fishery independent surveys conducted by North Carolina Division of Marine Fisheries (NCDMF) and North Carolina Wildlife Resources Commission (NCWRC) staff.

Results from the assessment indicated the stock is not overfished or experiencing overfishing relative to A/R specific biological reference points below.

| (A/R) Reference Point | Fishing Mortality (F) | Spawning Stock Biomass (pounds) | Total Allowable Landings pounds (pounds) |
|---|---|---|---|
| **Target** | 0.33 | 969,496 | 305,762 |
| **Threshold** | 0.41 | 785,150 | 325,905 |

Although the stock is not overfished, female spawning stock biomass has declined steadily since its peak in 2003, and is estimated at 835,462 pounds, just above the threshold of 772,588 pounds. A/R Striped Bass experienced a period of unusually strong recruitment (number of age-1 fish entering the population) from 1994-2001 followed by a period of lower recruitment from 2002-2013 (Figure 5). Total stock abundance reached its peak in the late 1990s and has declined gradually since, averaging about 1.5 million fish in recent years. Additionally, fishing mortality is estimated at 0.34, just above the target of 0.33 (Figure 6).

Overall, the trends in the A/R stock are quite similar to the Atlantic Striped Bass stocks described above, with a steady decline in female SSB since 2003. An update of the A/R stock assessment with data through 2014 will begin in August 2015.

## III. Status of the Fishery

Total Striped Bass commercial and recreational harvest in 2014 (excluding harvest from within the Albemarle Sound and Roanoke River) is estimated at nearly 30.0 million pounds or 2.53 million fish (Figures 7 and 8; Tables 3 - 6). This is a 7% decrease by weight and a 12% decrease by number from 2013. The commercial and recreational fisheries harvested 20 and 80%, respectively by weight, and 30 and 70% by number in 2014.

The commercial fishery (coastal and Chesapeake Bay combined) landed 5.94 million pounds in 2014, slightly higher than landings in 2013 (5.82 million pounds). The Chesapeake Bay jurisdictions accounted for 65% the 2014 commercial landings by weight (pounds); Maryland landed 32%, Virginia landed 23%, and PRFC landed 10%. Additional landings came from Massachusetts (19%), New York (9%), Rhode Island (4%), Delaware (3%), and New Jersey (<1%). Total commercial dead discards were estimated at 931,391 fish, indicating increased catch of sub-legal sized fish.

The total coastal commercial harvest in 2014 was 2.36 million pounds, which was a 7% decrease from the 2013 coastal landings of 2.53 million pounds. The total Chesapeake Bay commercial harvest in 2014 was 3.58 million pounds, which is a 9% increase from the 2013 harvest of 3.29 million pounds.

In 2014, the recreational fishery (coastal and Chesapeake Bay combined) landed an estimated 1.78 million fish (24.1 million pounds). This was a 16% decrease from 2013 landings by number (2.12 million fish) and a 9% decrease by weight (26.4 million pounds). The coastal recreational harvest was 20.33 million pounds. The recreational Chesapeake Bay-wide harvest was 3.73 million pounds and represents nearly a 48% increase in Chesapeake harvest from 2013 (2.52 million pounds).

Recreational releases were estimated at 7.28 million fish in 2014, which is a 15% decrease from 2013 (8.54 million fish), but a 40% increase from 2012 (5.19 million fish) (Figure 6; Table 7). The 2014 recreational catch estimate of 9.07 million fish is the 4th lowest on record since 1995, and represents a 65% decline from the peak in 2006 (26.13 million fish; Figure 9). Anglers are keeping more of the fish they catch in recent years or catching fewer sub-legal fish. The proportion of catch that is released was 80% in 2014. Using a 9% post-release mortality rate, recreational dead discards are estimated to be 655,429 fish in 2014. Total recreational removals (harvest and dead discards combined) in 2014 was 2.44 million fish, which is a 15% decrease from 2013 (2.89 million fish). Maryland landed the largest percentage of the coastwide recreational harvest in number of fish (33%), followed by New York (23%), Massachusetts (16%), New Jersey (13%), and Rhode Island (6%). The remaining states each landed 5% or less of the 2014 recreational landings by number of fish.

*Albemarle Sound and Roanoke River Management Areas*
Total commercial and recreational harvest in the ASMA and RRMA in 2014 was 121,956 pounds (31,114 fish). Commercial harvest in the ASMA was 71,372 pounds (14,258 fish). Recreational harvest in the ASMA was 16, 867 pounds (5,528 fish), while recreational harvest in the RRMA was 33,717 pounds (11,058 fish). The majority of harvest was fish three – six years old.

## IV. Status of Assessment Advice

The 2013 Atlantic Striped Bass benchmark stock assessment was peer reviewed at the 57th SAW/SARC, and approved by the Board for management use in October 2014. The SARC acknowledged that the stock assessment team (i.e., the Technical Committee, Tagging Subcommittee, and the Stock Assessment Subcommittee) was able to address several of the recommendations from the last benchmark assessment peer reviewed at the 46th SAW in 2007 (NEFSC 2013a, NEFSC 2013b). Most notably, the stock assessment team re-estimated target and threshold F that link with the target and threshold SSB, and made progress in addressing the spatial dynamics of the stock by splitting total removals into three "fleets;" an ocean fleet, a Chesapeake Bay fleet and a commercial discard fleet. Other improvements include incorporating error in the catch estimation into the model, re-evaluating key parameters including natural mortality, release mortality rates, and tag reporting rates, improving SCA model fit diagnostics, incorporating the stock-recruit relationship into the SCA and reference point models, and exploring different models for selectivity in the plus age group. The 2013 SCA model also directly incorporates ageing error based on the assessment team's work on scale-otolith comparisons.

Additionally, the SARC identified high priority items for consideration in future assessments including continued improvement of the spatial modeling of the stock, and incorporating tagging data.

The Technical Committee's next Atlantic Striped Bass stock assessment update will be available for review by the Board at its November 2015 meeting. The next benchmark stock assessment for Striped Bass is scheduled for 2018.

## V. Status of Research and Monitoring

Amendment 6 and its Addenda I-III set the regulatory and monitoring measures for the coastwide Striped Bass fishery in 2013 and 2014.

The management plan requires certain jurisdictions to implement fishery-dependent monitoring programs for Striped Bass. All jurisdictions with commercial fisheries or substantial recreational fisheries are required to define the catch and effort composition of these fisheries. Additionally, all states and jurisdictions with a commercial fishery must implement a commercial tagging program pursuant to Addendum III to Amendment 6.

The management plan also requires certain states to monitor the Striped Bass population independent of the fisheries. Juvenile abundance indices are required from Maine (Kennebec River), New York (Hudson River), New Jersey (Delaware River), Maryland (Chesapeake Bay tributaries), Virginia (Chesapeake Bay tributaries), and North Carolina (Albemarle Sound). Spawning stock sampling is mandatory for New York (Hudson River), Pennsylvania (Delaware River), Delaware (Delaware River), Maryland (Upper Chesapeake Bay and Potomac River), Virginia (Rappahannock River and James River), and North Carolina (Roanoke River and Albemarle Sound). Amendment 6 requires NOAA Fisheries, USFWS, Massachusetts, New York, New Jersey, Maryland, Virginia, and North Carolina to continue their tagging programs, which provide data used to determine survivorship and migration patterns.

## VI. Status of Management Measures and Issues

### *Coastal Commercial Quota*

In 2014, one state had a coastal commercial quota lower than their Amendment 6 allocation due to quota overages in 2013 (Massachusetts exceeded their quota by 6,591 pounds resulting in an effective quota of 1,153,159). In 2014, all states' coastal commercial harvests were below their coastal commercial quota. Addendum IV coastal commercial quotas will be implemented for 2015, as listed in Table 8.

### *Chesapeake Bay Quota*

Amendment 6 includes a separate management program for the Chesapeake Bay due to the size availability of Striped Bass in this area. Based on the previous target fishing mortality rate of F=0.27, Maryland, Virginia, and the Potomac River Fisheries Commission (PRFC) annually establish a bay-wide quota for resident fish using the Harvest Control Model (Table 9). In 2014, the bay-wide quota was 8,652,527 pounds. Shares are allocated to Maryland, the PRFC, and Virginia based on historical harvest, and each jurisdiction then allocates portions of the quota to its recreational and commercial fisheries. In 2014, the bay-wide harvest was 7,303,699 pounds and within the quota.

### *Chesapeake Bay Spring Trophy Fishery*

Recreational fishermen in the Chesapeake Bay are permitted to take adult migrant fish during a limited seasonal fishery, commonly referred to as the Spring Trophy Fishery. From 1993 to 2007 the fishery operated under a quota. Beginning in 2008, the Board approved non-quota management until stock assessment indicates that corrective action is necessary to reduce F on the coastal stock. After several years of varying size limits in Maryland and the Potomac River to account for quota

overages, a 28 inch size limit has been in place since 2008; Virginia's trophy fish size limit has been higher at 32 inches. The trophy season in Virginia is also shorter.

In 2014, the estimate of migrant fish harvested during the trophy season was 38,921 fish (38,910 fish in Maryland and 11 fish in Virginia [2015 state compliance reports]) and represents a 20% decrease from 2013. Harvest of migrant Striped Bass in the spring fishery in 2014 was below the average over the last 5 years (2009-2013; 42,765 fish). In Maryland in 2014, charter boats harvested 32% while private anglers harvested 68% of the total.

***Wave-1 Recreational Harvest Estimates***

Evidence suggests that North Carolina, Virginia, and possibly other states have had sizeable wave-1 (January/February) recreational Striped Bass fisheries beginning in 1996 (NEFSC 2013b). The Marine Recreational Information Program (MRIP), formerly the Marine Recreational Fisheries Statistics Survey (MRFSS), has sampled for Striped Bass in North Carolina during wave-1 since 2004. Other states are not currently covered during wave-1.

However, Striped Bass distributions on their overwintering grounds during January through February has changed significantly since the mid-2000s. The migratory portion of the stocks has been well offshore in the EEZ off Virginia and North Carolina (up to 27 miles) in recent years. North Carolina has reported zero striped bass landings in the ocean for 2012-2014.

***Juvenile Abundance Indices***

Amendment 6 requires the following states to conduct Striped Bass young-of-year juvenile abundance index (JAI) surveys on an annual basis: Maine for the Kennebec River; New York for the Hudson River; New Jersey for the Delaware River; Maryland for the Maryland Chesapeake Bay tributaries; Virginia for the Virginia Chesapeake Bay tributaries; and North Carolina for the Albemarle Sound/Roanoke River stock. Refer to Figure 10 for the results of the juvenile abundance surveys.

The Striped Bass Technical Committee (TC) annually reviews trends in all required JAIs. Under Amendment 6, recruitment failure was defined as a value that was lower than 75 percent of all the other values in the dataset for three consecutive years. This methodology created a constantly moving value with each additional year of data. Under the new definition of recruitment failure, per Addendum II to Amendment 6, recruitment failure is defined as a value that is below 75% (the first quartile, or Q1) of all values in a fixed time series appropriate to each JAI. If any survey's JAI falls below their respective Q1 for three consecutive years, then appropriate action should be recommended by the TC to the Management Board. The Management Board is the final arbiter in all management decisions.

For the 2015 review of JAIs the analysis evaluates the 2012, 2013, and 2014 JAI values. No state's JAI met the criteria for recruitment failure, but every state's JAI except Maine has had at least one value within the last three years fall below the Q1 threshold (Figure 10).

The JAI for the Hudson River was below its Q1 threshold for 2012 and 2013, but well above average for 2014. Similarly the Delaware River JAI was below its Q1 threshold in 2012, slightly above the Q1 in 2013, and well above average for 2014. The Maryland Chesapeake Bay JAI was near zero in 2012, followed by the past two years' value near the long-term average. The Virginia

Chesapeake Bay JAI showed a similar trend with the 2012 value below its Q1 and the 2013 and 2014 values above the survey's long-term average. North Carolina's JAI for the Albemarle Sound/Roanoke River stock was near its Q1 threshold in 2012, below its Q1 and near zero in 2013, and the 2014 value well above average, ranking 9th in the sixty-year time series.

***Albemarle/Roanoke Striped Bass FMP***

The Interstate FMP for Atlantic Striped Bass requires North Carolina to inform the Commission of changes to Striped Bass management in the Albemarle Sound/Roanoke River (A/R) System. North Carolina must adhere to the compliance criteria in Amendment 6. After a Technical Committee review, the PRT previously determined that North Carolina's FMP complies with the mandatory components of Amendment 6.

Estuarine Striped Bass *(Morone saxatilis)* in North Carolina are currently managed under Amendment 1 to the North Carolina Estuarine Striped Bass Fishery Management Plan (FMP) and its subsequent revision (NCDMF 2014). It is a joint plan between the North Carolina Marine Fisheries Commission (NCMFC) and the North Carolina Wildlife Resources Commission (NCWRC). Amendment 1, adopted in 2013, lays out separate management strategies for the Albemarle/Roanoke (A/R) stock and the largely non-migratory Central and Southern stocks in the Tar/Pamlico, Neuse, and Cape Fear rivers. Management programs in Amendment 1 utilize annual total allowable landings (TAL), daily possession limits, open and closed harvest seasons, gill net mesh size and yardage restrictions, seasonal attendance requirements, barbless hook requirements in some areas, minimum size limits, and slot limits to maintain a sustainable harvest and reduce regulatory discard mortality in all sectors. Amendment 1 also maintains the stocking regime in the Central and Southern systems and the harvest moratorium on Striped Bass in the Cape Fear River and its tributaries (NCDMF 2013). Striped Bass fisheries in the Atlantic Ocean of North Carolina are managed under ASMFC's Amendment 6 and subsequent addenda to the Interstate FMP for Atlantic Striped Bass.

In response to the results of the 2013 benchmark A/R Striped Bass stock assessment that indicated fishing mortality was above its target, the NCMFC approved a Revision to Amendment 1 in November 2014 (NCDMF 2014). The revision reduced the Total Allowable Landings (TAL) for the A/R stock from 550,000 pounds to 275,000 pounds, to be split evenly between the commercial and recreational sectors. Stock assessment projections indicated a TAL of 275,000 pounds would maintain fishing mortality and spawning stock at their respective targets and provide a sustainable harvest. The Central and Southern stocks continue to be managed under a 25,000 pounds commercial TAL, daily possession limits and a closed summer season to control recreational harvest, and a total harvest moratorium in the Cape Fear River and its tributaries.

***Law Enforcement Reporting***

No law enforcement cases were described in the 2014 and 2015 compliance reports, however, that does not necessarily imply that no Striped Bass law enforcement violations occurred in 2013 and 2014. Staff is working with the Law Enforcement Committee to compile law enforcement citations, if any, for the 2016 FMP review.

## VII. Annual State Compliance

Based on the annual state compliance reports, the Plan Review Team (PRT) determined that each state/jurisdiction implemented a management program for 2013 and 2014 that was approved by the Striped Bass Management Board and was consistent with the requirements of Amendment 6. Refer to Tables 1 and 2 for 2014 Striped Bass fishing regulations by state.

Amendment 6 includes compliance requirements for monitoring programs (summarized in *Section V*). Compliance with these requirements is summarized in Table 11. The PRT found that all states carried out the required monitoring programs in the 2013 and 2014 fishing year. No monitoring program changes were documented in the 2014 or 2015 compliance reports, or provided via personal communication.

Addendum III to Amendment 6 includes compliance requirements for monitoring commercial fishery tagging programs. The PRT found that all states implemented commercial tagging programs consistent with the requirements of Addendum III. Table 10 describes each state's program requirements.

The following management program changes were documented for the 2014 season:

- MD- The 2014 commercial fishery was transitioned to an ITQ system. A small number of commercial fishermen opted out of the ITQ fishery and are regulated under the old system with a portion of the quota set aside, referred to as the "Common Pool."
- MA- The 2014 commercial season did not open until June 24, and harvesting was allowed on Monday and Thursday only with a daily bag limit of 2 fish for those with rod-reel or individual permits, or 15 fish for those with boat permits.

## VIII. Recommendations

**Research Recommendations**

***Fishery-Dependent Priorities***
***High***

- Continue collection of paired scale and otolith samples, particularly from larger Striped Bass, to facilitate development of otolith-based age-length keys and scale-otolith conversion matrices.[1]

***Moderate***

- Develop studies to provide information on gear specific discard morality rates and to determine the magnitude of bycatch mortality.[2]
- Improve estimates of Striped Bass harvest removals in coastal areas during wave 1 and in inland waters of all jurisdictions year round.
- Evaluate the percentage of fishermen using circle hooks.[3]

***Fishery-Independent Priorities***
***Moderate***

- Develop a refined and cost-efficient, fisheries-independent coastal population index for Striped Bass stocks.

- The PRT recommends the SBTC be tasked with exploring whether the Cooperative Winter Tagging Cruise, NEAMAP, and/or NMFS Trawl Survey datasets would prove useful in this respect.

***Modeling / Quantitative Priorities***

***High***

- Develop a method to integrate catch-at-age and tagging models to produce a single estimate of F and stock status.[4]
- Develop a spatially and temporally explicit catch-at-age model incorporating tag based movement information.[5]
  - The PRT recommends that the SAS be tasked with reviewing recent published literature examining tag-based movement information to see if they would contribute to the development of such a model (e.g., Callihan et al. 2014)
- Review model averaging approach to estimate annual fishing mortality with tag based models. Review validity and sensitivity to year groupings.[6]
- Develop methods for combining tag results from programs releasing fish from different areas on different dates.
- Examine potential biases associated with the number of tagged individuals, such as gear specific mortality (associated with trawls, pound nets, gill nets, and electrofishing), tag induced mortality, and tag loss.[7]
- Develop field or modeling studies to aid in estimation of natural mortality or other factors affecting the tag return rate.

***Moderate***

- Develop maturity ogives applicable to coastal migratory stocks.
- Examine methods to estimate annual variation in natural mortality.[8]
- Develop reliable estimates of poaching loss from Striped Bass fisheries.
- Improve methods for determining population sex ratio for use in estimates of SSB and biological reference points.
- Evaluate truncated matrices and covariate based tagging models.

***Low***

- Examine issues with time saturated tagging models for the 18 inch length group.
- Develop tag based reference points.

***Life History, Biological, and Habitat Priorities***

***High***

- Continue in-depth analysis of migrations, stock compositions, etc. using mark-recapture data.[9]
- Continue evaluation of Striped Bass dietary needs and relation to health condition.[10]
- Continue analysis to determine linkages between the mycobacteriosis outbreak in Chesapeake Bay and sex ratio of Chesapeake spawning stock, Chesapeake juvenile production, and recruitment success into coastal fisheries.

***Moderate***

- Examine causes of different tag based survival estimates among programs estimating similar segments of the population.

- Continue to conduct research to determine limiting factors affecting recruitment and possible density implications.
- Conduct study to calculate the emigration rates from producer areas now that population levels are high and conduct multi-year study to determine inter-annual variation in emigration rates.

***Low***

- Determine inherent viability of eggs and larvae.
- Conduct additional research to determine the pathogenicity of the IPN virus isolated from Striped Bass to other warm water marine species, such as flounder, menhaden, shad, and largemouth bass.

***Management, Law Enforcement, and Socioeconomic Priorities***

***Moderate***

- Examine the potential public health trade-offs between the continued reliance on the use of high minimum size limits (28 inches) on coastal recreational anglers and its long-term effects on enhanced PCB contamination among recreational stakeholders.[11, 13]
- Evaluate Striped Bass angler preferences for size of harvested fish and trade-offs with bag limits.

***Habitat Recommendations***

- Passage facilities should be designed specifically for passing Striped Bass for optimum efficiency at passing this species.
- Conduct studies to determine whether passing migrating adults upstream earlier in the year in some rivers would increase Striped Bass production and larval survival, and opening downstream bypass facilities sooner would reduce mortality of early emigrants (both adult and early-hatched juveniles).
- All state and federal agencies responsible for reviewing impact statements and permit applications for projects or facilities proposed for Striped Bass spawning and nursery areas shall ensure that those projects will have no or only minimal impact on local stocks, especially natal rivers of stocks considered depressed or undergoing restoration.[11]
- Federal and state fishery management agencies should take steps to limit the introduction of compounds which are known to be accumulated in Striped Bass tissues and which pose a threat to human health or Striped Bass health.
- Every effort should be made to eliminate existing contaminants from Striped Bass habitats where a documented adverse impact occurs.
- Water quality criteria for Striped Bass spawning and nursery areas should be established, or existing criteria should be upgraded to levels that are sufficient to ensure successful Striped Bass reproduction.
- Each state should implement protection for the Striped Bass habitat within its jurisdiction to ensure the sustainability of that portion of the migratory stock. Such a program should include: inventory of historical habitats, identification of habitats presently used, specification of areas targeted for restoration, and imposition or encouragement of measures to retain or increase the quantity and quality of Striped Bass essential habitats.
- States in which Striped Bass spawning occurs should make every effort to declare Striped Bass spawning and nursery areas to be in need of special protection; such declaration should be accompanied by requirements of non-degradation of habitat quality, including minimization

of non-point source runoff, prevention of significant increases in contaminant loadings, and prevention of the introduction of any new categories of contaminants into the area. For those agencies without water quality regulatory authority, protocols and schedules for providing input on water quality regulations to the responsible agency should be identified or created, to ensure that water quality needs of Striped Bass stocks are met.[12]

- ASMFC should designate important habitats for Striped Bass spawning and nursery areas as HAPC.
- Each state should survey existing literature and data to determine the historical extent of Striped Bass occurrence and use within its jurisdiction. An assessment should be conducted of those areas not presently used for which restoration is feasible.

Footnotes

- [1] The Fish and Wildlife Service has archived otolith samples from known-age (CWT-tagged), stocked fish, for which scale ages were derived as well. These fish were collected during past Cooperative Winter Tagging Cruises and the otoliths, once aged, will increase our sample size, and since these are known-age fish, will also allow an examination of extent that which reader error affects both otolith age, and scale age.
- [2] Literature search and some modeling work completed.
- [3] Work ongoing in New York through the Hudson River Angler Diary, Striped Bass Cooperative Angler Program, and ACCSP e-logbook.
- [4] Model developed, but the tagging data overwhelms the model. Issues remain with proper weighting.
- [5] Model developed with Chesapeake Bay and the rest of the coast as two fleets. However, no tagging data has been used in the model.
- [6] Work ongoing by Striped Bass Tagging Subcommittee to evaluate the best years to use for the IRCR and the periods to use for the MARK models.
- [7] Gear specific survival being examined in Hudson River.
- [8] Ongoing work by the Striped Bass Tagging Subcommittee
- [9] Ongoing through Cooperative Winter Tagging Cruise and Striped Bass charter boat tagging trips. See Cooperative Winter Tagging Cruise 25 Year Report, in preparation.
- [10] Plans for a stomach content collection program in the Chesapeake Bay by the Chesapeake Bay Ecological Foundation.
- [11] Ongoing in New York.
- [12] Significant habitat designations completed in the Hudson River and New York Marine Districts.
- [13] Samples collected from two size groups ($\geq$ 28 inches and 20-26 inches) in Pennsylvania and processed by the Department of Environmental Protection to compare contamination of the two size groups.

## Plan Review Team Recommendations

- The PRT found that all states implemented regulations consistent with Amendment 6 and Addenda I-III of the Atlantic Striped Bass FMP, and recommends the Board accept the 2015 FMP Review of the 2013 and 2014 fishing seasons.
- The PRT recommends that all states submit commercial tagging reports no later than 60 days prior to the start of the first commercial fishery in that state or jurisdiction, as described in Addendum III to Amendment 6.
- No states requested *de minimis* status at this time.

## IX. References


Atlantic States Marine Fisheries Commission (ASMFC). 2013. Update of the Striped Bass stock assessment using final 2012 data. A report prepared by the Atlantic Striped Bass Technical Committee. 74 p. Arlington, VA.

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Mroch, R., and C.H. Godwin. 2014. Stock Status of Albemarle Sound-Roanoke River Striped Bass. North Carolina Division of Marine Fisheries, Morhead City, North Carolina.

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NEFSC. 2013b. 57th Northeast Regional Stock Assessment Workshop (57th SAW) Assessment Report. US Dept Commer. Northeast Fish Sci Cent Ref Doc. 13-16; 967 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026

National Oceanic and Atmospheric Administration (NOAA). 2012. 2011 Biennial Report to Congress on the Progress and Findings of Studies on Striped Bass Populations. Washington (DC): US Department of Congress, NOAA National Marine Fisheries Service. 38 p.

## X. Figures

**Figure 1. Striped Bass spawning stock biomass (SSB) estimates from 1982-2012, and biological reference points.** Source: Update of the Striped Bass Stock Assessment (ASMFC 2013).

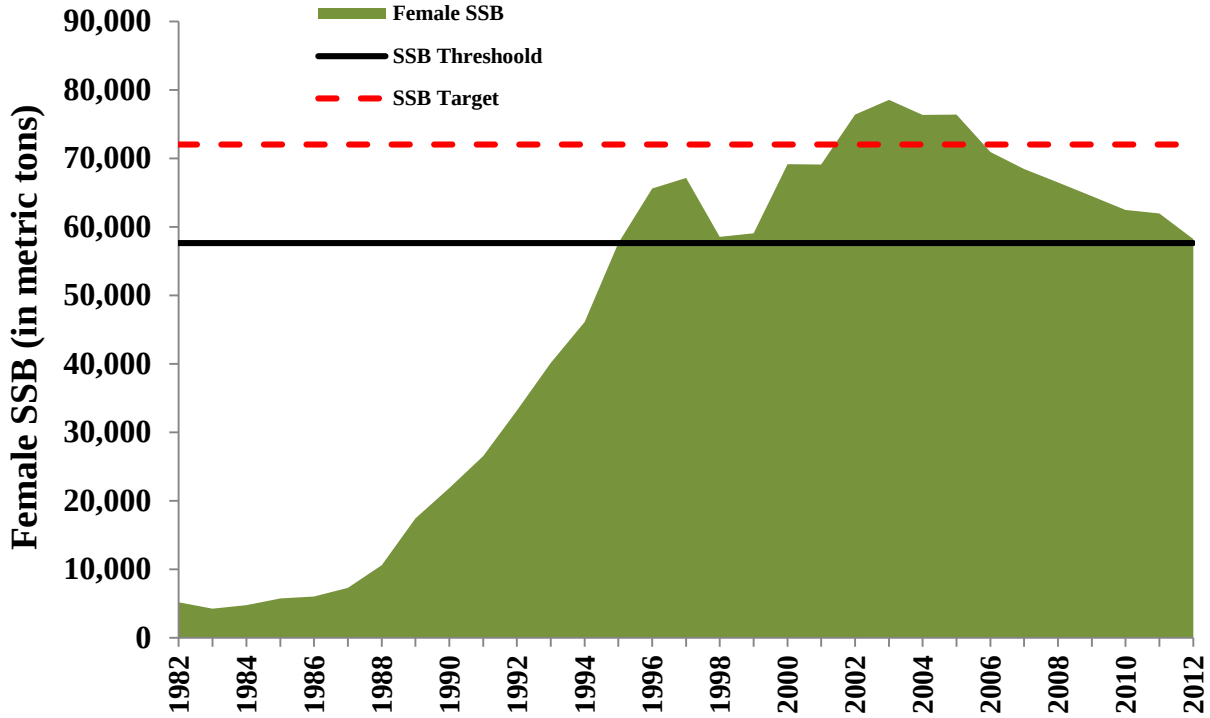



**Figure 2. Striped Bass abundance and recruitment estimates from 1982-2012.** Source: Update of the Striped Bass Stock Assessment (ASMFC 2013).

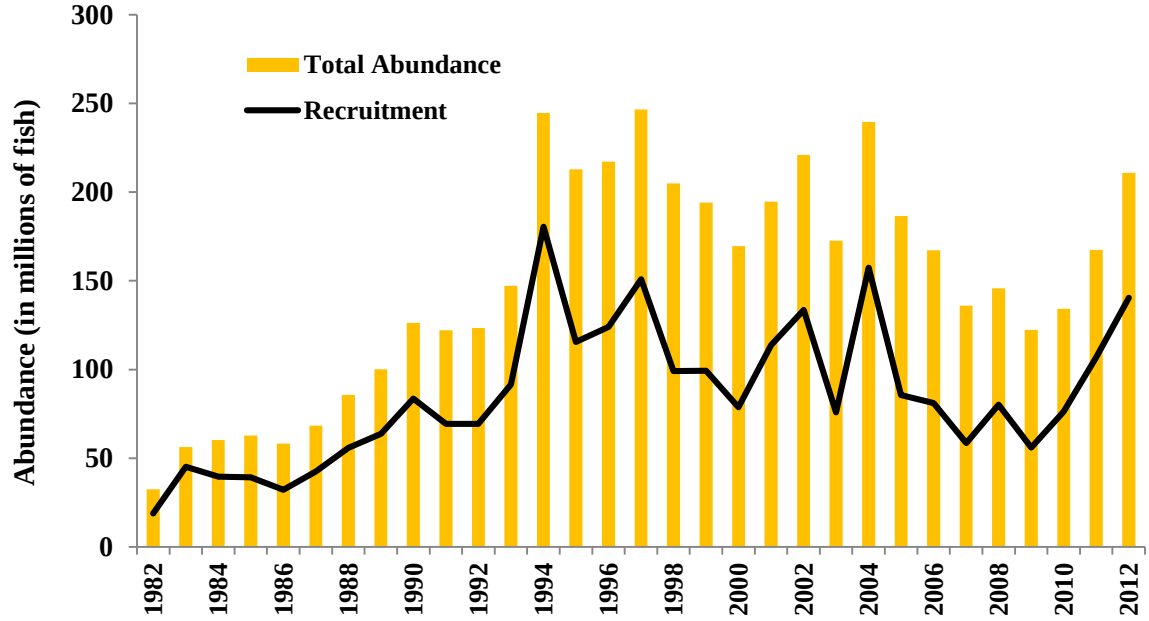


**Figure 3. Striped Bass fishing mortality (F) estimates from 1982-2012 from the statistical-catch-at-age (SCA) model and biological reference points.** Source: Update of the Striped Bass Stock Assessment (ASMFC 2013).

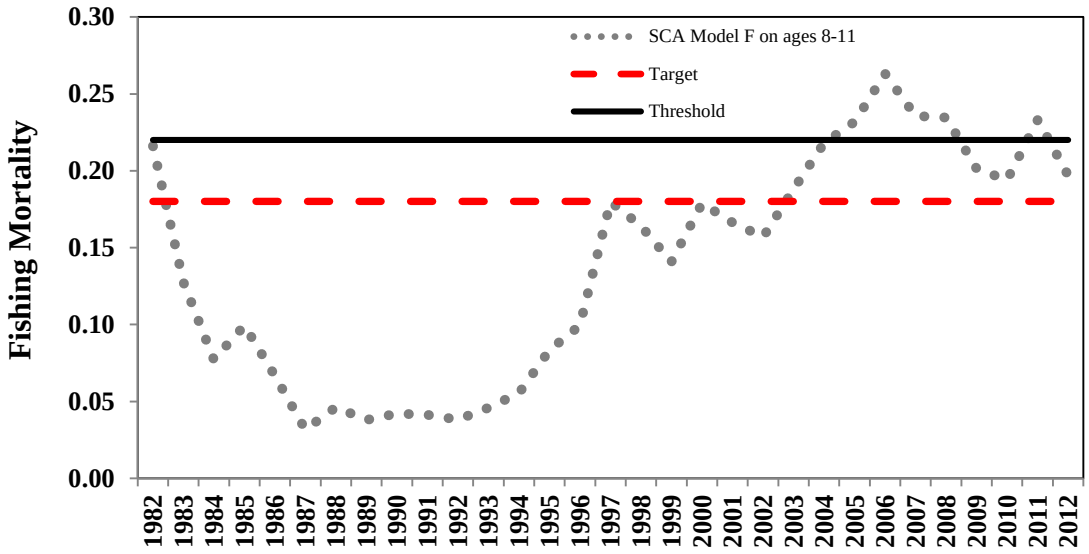



**Figure 4. Coastwide catch in millions of fish by sector from 1982-2014.**

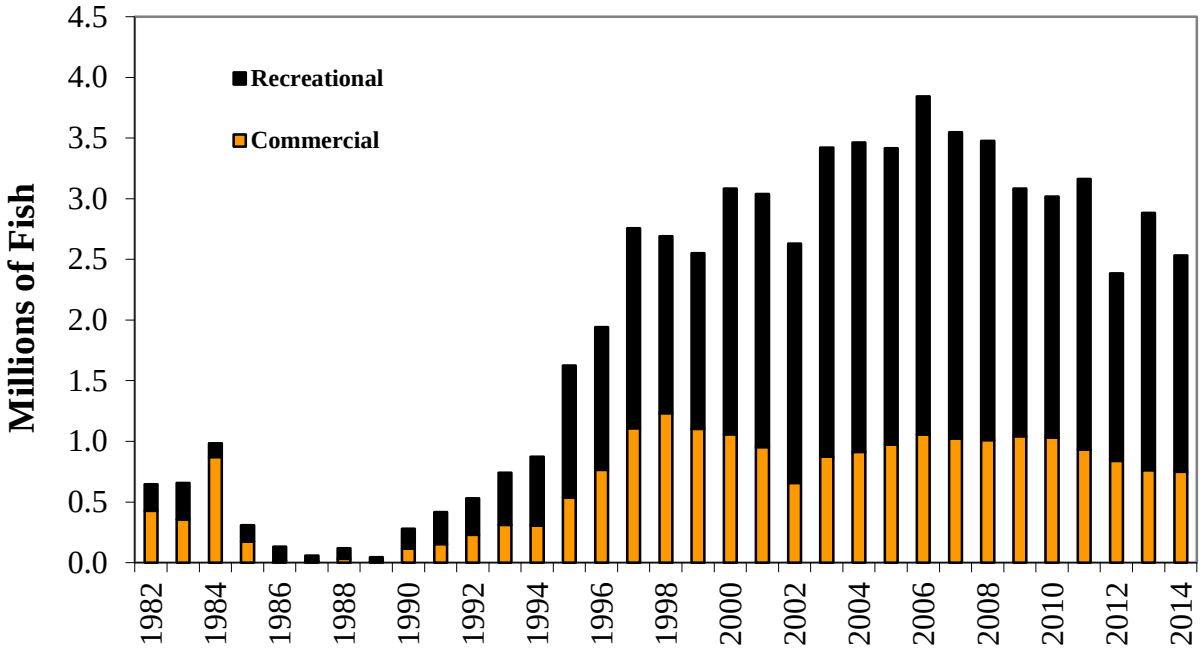


**Figure 5. Albemarle/Roanoke Striped Bass female spawning stock biomass and recruitment (abundance of age-1).** Source: Stock Status of Albemarle Sound-Roanoke River Striped Bass, 2014.

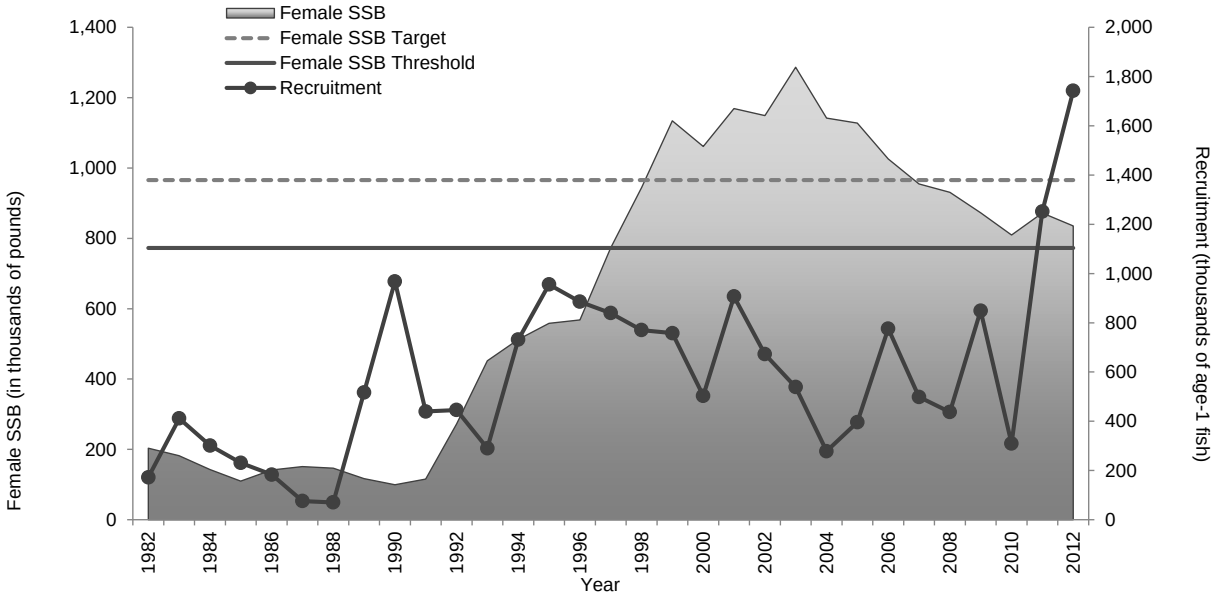



**Figure 6. Albemarle/Roanoke Striped Bass total stock abundance and fishing mortality.** Source: Stock Status of Albemarle Sound-Roanoke River Striped Bass, 2014.

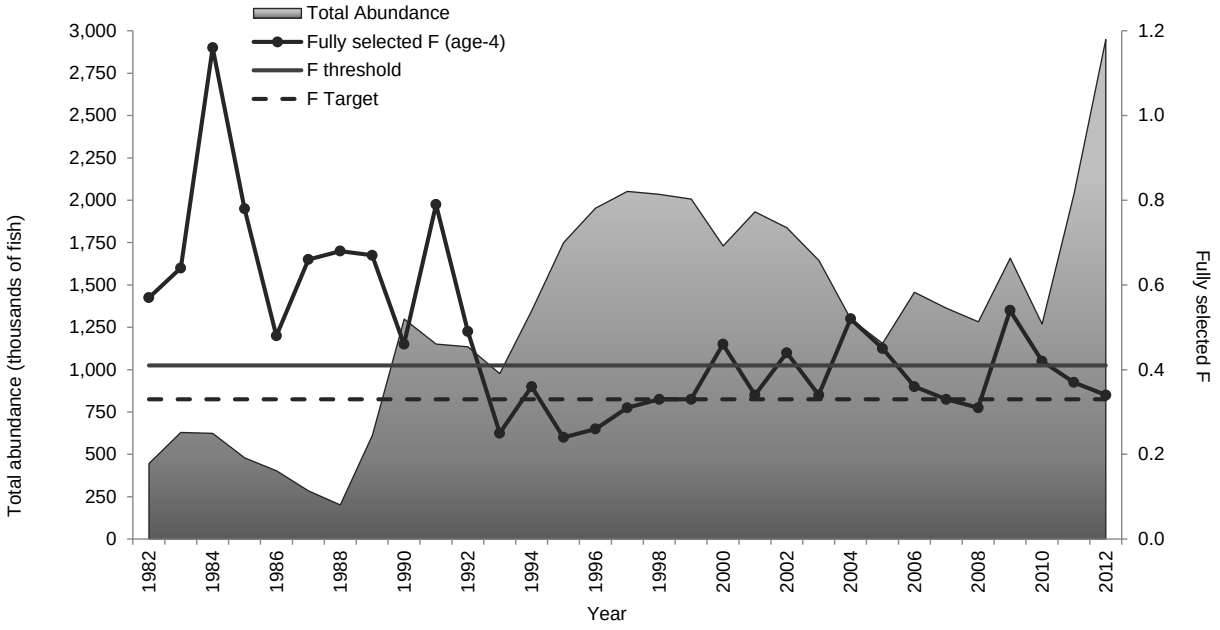


**Figure 7. Commercial landings, in numbers, of migratory Striped Bass, by state, 1990–2014.**
Note: All harvests are based on the calendar year. MD and VA harvests include Chesapeake Bay harvest. NC is Atlantic Ocean only. ME, NH, DC, and PA do not have a commercial fishery and do not use their commercial quota. NC and NJ do not have a commercial fishery; commercial quota used for a small-scale Striped Bass Bonus Program equating to ~0.08% of commercial landings (not included in figure). Source: Annual State Compliance Reports.

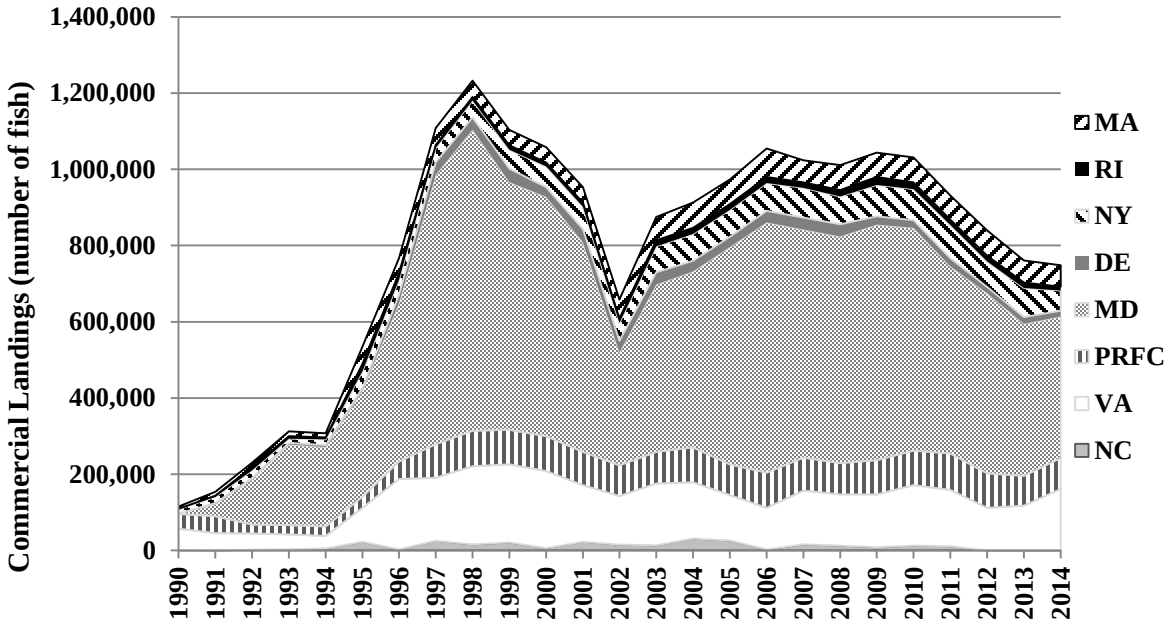



**Figure 8. Commercial landings, in pounds, of migratory Striped Bass, by state, 1990 – 2014.**
Note: All harvests are based on the calendar year. MD and VA harvests include Chesapeake Bay harvest. NC is Atlantic Ocean only. ME, NH, DC, and PA do not have a commercial fishery and do not use their commercial quota. CT and NJ do not have a commercial fishery; commercial quota used for a small-scale Striped Bass Bonus Program equating to ~0.08% of commercial landings (not included in figure). Source: Annual State Compliance Reports.

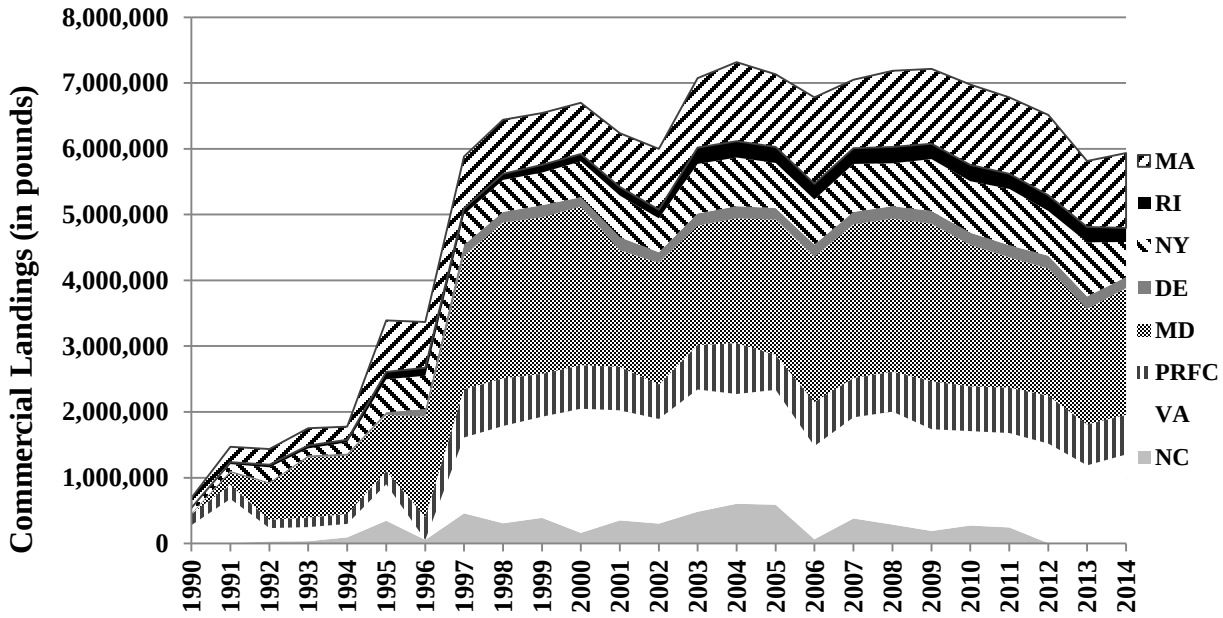


**Figure 9. Recreational catch and the proportion of fish released, 1982-2014**
Source: Marine Recreational Information Program (MRIP) queried June 26, 2015.

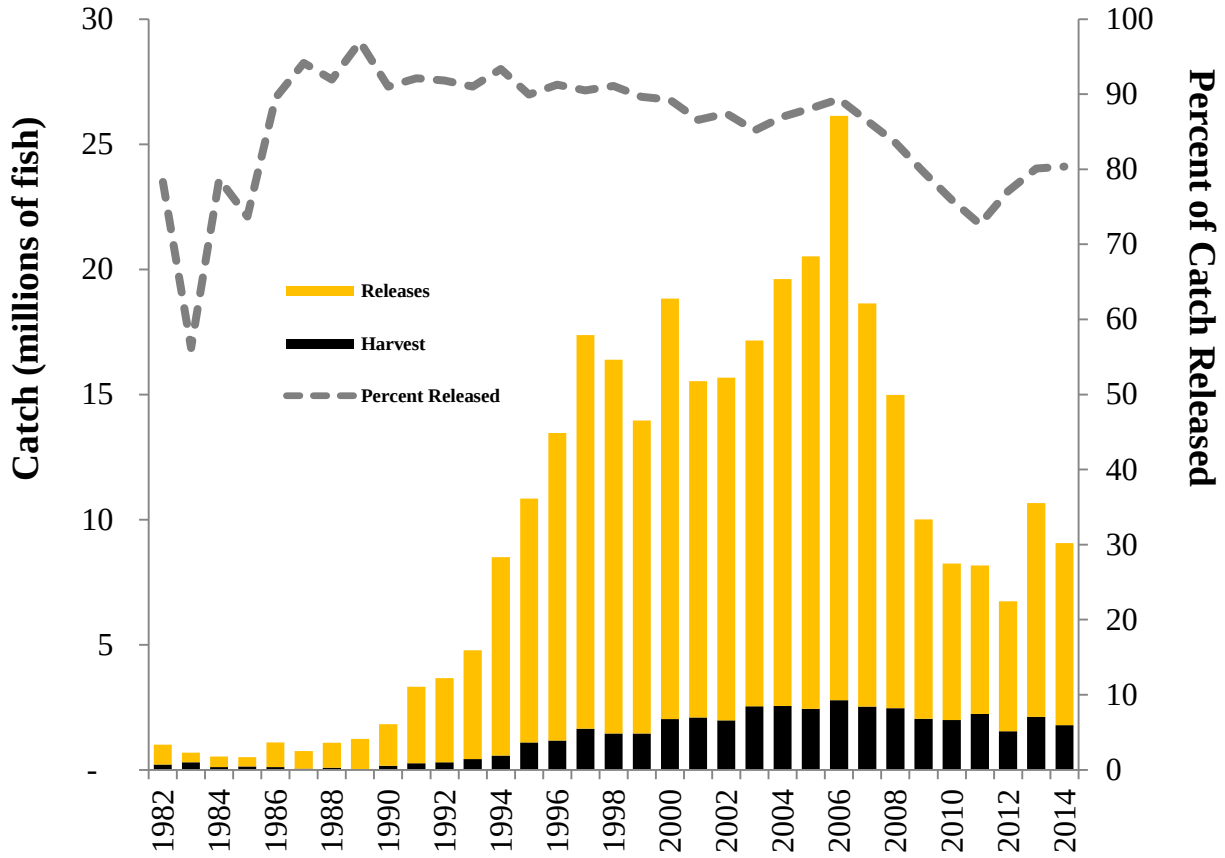
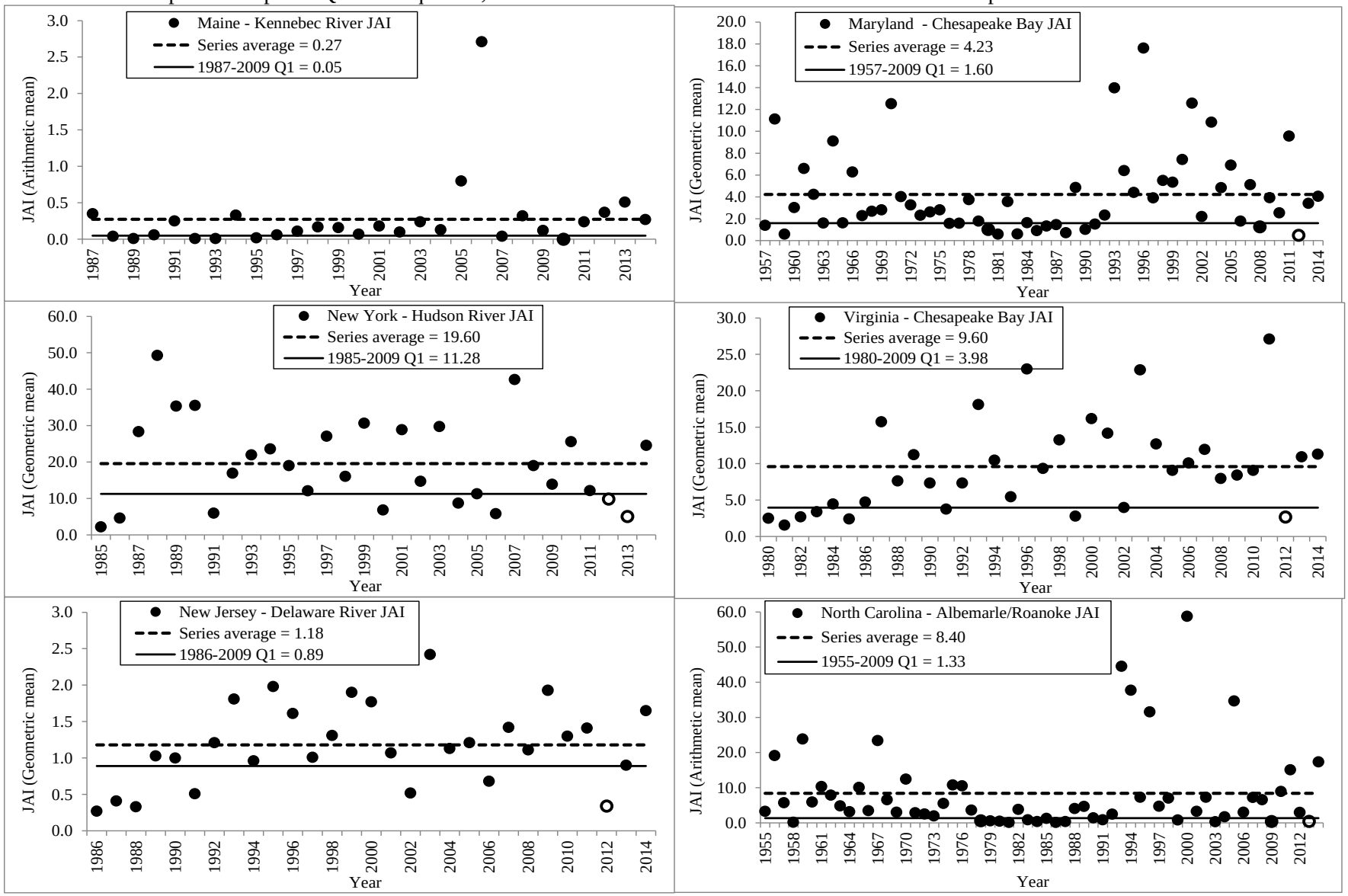


**Figure 10. Juvenile abundance indices from Maine, New York, Jew Jersey, Maryland, Virginia, and North Carolina.** Source: Annual State Compliance Reports. Q1 = first quartile, which is the value that is below 75% of all values in a specified time series.



## XI. Tables

**Table 1. Summary of Atlantic Striped Bass <u>Commercial</u> Regulations in 2014.** Source: Annual State Compliance Reports.

| STATE | SIZE LIMITS | SEASONAL QUOTA | OPEN SEASON |
|---|---|---|---|
| ME | Commercial fishing prohibited | | |
| NH | Commercial fishing prohibited | | |
| MA | 34" min. | 1,500,100 lb. (minus any overage from previous year)<br>Hook & line only | 6.23 until quota reached; 15 fish/day on with com. lobster permit; 2 fish/day with rod and reel permit (Striped Bass endorsement required for both permits) |
| RI | Floating fish trap: 26" min.<br><br>General category (mostly rod & reel): 34" min. | Total: 239,963 lb. (minus any overage from previous year)<br>Split 39:61 between trap and general category.<br>Gill netting prohibited. | Trap: 1.1 until quota reached; if 80% quota harvested before 8.26, a 500 lb/trap/day limit is imposed; from 8.27–12.31, 10,000 lb. quota set-aside available.<br>General Category: 6.8-8.31 or 75% quota; 9.8-12.31 or 100% quota; 5 fish/day Sun-Thu. |
| CT | Commercial fishing prohibited | | |
| NY | 24–36"<br>Ocean only<br>(Hudson River closed to commercial harvest) | 828,293 lb. (minus any overage from previous year). Pound nets, gill nets (6-8"stretched mesh), hook & line. | 7.1 – 12.15<br>Gill nets <6 or >8", 7 fish/trip; trawls 21 fish/trip.<br>Gill nets prohibited in Great South, South Oyster, and Hempstead Bays. |
| NJ | Commercial fishing prohibited | | |
| PA | Commercial fishing prohibited | | |
| DE | 20" minimum except 28" spring gillnet in DE Bay/River & Nanticoke River (5.5" max mesh & 0.28mm max twine) | 193,447 lb. (minus any overage from previous year) | Gillnet: 2.15-5.31 (3.1-31 for Nanticoke) & 11.15-12.31; drift nets only 2.15-28 & 5.1-31; no fixed nets in DE River<br>Hook and Line: 4.1–12.31<br>Except 4.1-5.31 closed spawning areas |
| MD | Bay and Rivers: 18–36"<br><br>Ocean: 24" minimum | Bay and River: 1,925,421 lbs (part of Baywide quota)<br>Gear specific quotas and landing limits<br><br>Ocean: 126,396 lb. (minus any overage from previous year) | Bay Pound Net: 6.2-11.30, Mon-Sat<br>Bay Haul Seine: 6.2-11.30, Mon-Fri<br>Bay Hook & Line: 6.2-11.30, Mon-Thu<br>Bay Drift Gill Net: 1.1-2.28, 12.2-12.31, Mon-Fri<br>Ocean Drift Gill Net & Trawl: 1.1-4.30, 11.1-12.31, Mon-Fri |

(Table 1 continued – Summary of commercial regulations in 2014)

| STATE | SIZE LIMITS | SEASONAL QUOTA | OPEN SEASON |
|---|---|---|---|
| PRFC | 18" min all year<br>36" max 2.15–3.25 | 1,317,473 lbs (part of Baywide quota) | Hook & line: 2.15-3.25, 6.1-12.31<br>Pound Net & Other: 2.15-3.25, 6.1-12.15<br>Gill Net: 1.1-3.25 |
| DC | Commercial fishing prohibited | | |
| VA | Bay and Rivers: 18" min, 28" max & complimentary gill net mesh size limit 3.26–6.15<br>Ocean: 28" minimum | Bay and Rivers: 1,402,326 lbs in 2014 (part of Baywide quota)<br><br>Ocean: 184,853 lb. (minus any overage from previous year) | Bay and Rivers: 2.1-12.31<br><br>Ocean: 2.1-12.31 |
| NC | Albemarle Sound: 18"<br><br>Ocean: 28" | Albemarle Sound: 275,000 lb<br>Ocean: 480,480 lb. (minus any overage from previous year) split 160,160 lbs each to beach seine, gill net & trawl | Albemarle Sound: 1.1-4.30, 10.1-12.31; daily trip limit ranging from 5 to 15 fish; Striped Bass cannot exceed 50% by weight of total finfish harvest; season and daily trip limits set by proclamation.<br>Ocean: gear requirements; open days and trip limits for beach seine, gill net, and trawl set via proclamation |

**Table 2. Summary of Atlantic Striped Bass <u>Recreational</u> Regulations in 2014.** Source: Annual State Compliance Reports.

| STATE | SIZE LIMITS | BAG LIMIT | OTHER | OPEN SEASON |
|---|---|---|---|---|
| ME | 20 – 26" OR ≥40" | 1 fish | Hook & line only | All year, except spawning areas are closed 12.1 – 4.30 and catch and release only 5.1 – 6.30 |
| NH | 1 fish 28–40" & 1 fish >28" | 2 fish | No netting; no gaffing; must be landed with head and tail intact; no culling | All year |
| MA | 28" min | 2 fish | Hook & line only | All year |
| RI | 28" min | 2 fish | | All year |
| CT | 28" min, except Connecticut River Bonus Program: 22-28" | 2 fish, except CR Bonus: 1 fish | CR Bonus Quota: 4,025 fish | All year, except CR Bonus 5.1-6.30 (limited to I-95 bridge to MA border) Catch and release only in spawning areas 12.1-4.30 |
| NY | Ocean Private: 1 fish 28-40" & 1 fish > 40" Ocean Charter: 28" min Hudson River: 18" min DE River: 28" min | Ocean: 2 fish<br>Hudson R.: 1 fish DE River: 2 fish | Angling or spearing only | Ocean: 4.15 – 12.15<br>Hudson River: 3.16 – 11.30 Delaware River: All year |
| NJ | 28" min | 2 fish, plus 1 additional through Bonus Program | Bonus program quota: 321,750 lb. No netting. Non-offset circle hooks required 4.1-5.31 in DE River if using natural bait. | All year except 1.1-2.28 in intra-coastal waters plus 4.1-5.31 in lower DE River |
| PA | Non-tidal DE River: 28" min; Delaware Estuary: 28" min. except 20-26" from 4.1-5.31 | 2 fish | | Year round |
| DE | 28" min. except 20-26" from 7.1-8.31 in Del. River, Bay & tributaries | 2 fish | Hook & line, spear (for divers) only. Circle hooks required in spawning season. | All year except 4.1-5.31 in spawning grounds (catch & release allowed) |

(Table 2 continued – Summary of recreational regulations in 2014)

| STATE | SIZE LIMITS | BAG LIMIT | OTHER | OPEN SEASON |
|---|---|---|---|---|
| MD | Susquehanna Flats (SF): 18-26”<br><br>Chesapeake Bay Trophy: 28” min<br>Chesapeake Bay Regular: 18” min with 1 fish > 28”<br>Ocean: 28” min | SF: 1 fish<br><br>Chesapeake Bay Trophy: 1 fish<br>Chesapeake Bay Regular: 2 fish<br><br>Ocean: 2 fish | SF: non-off set circle hook if baited hooks & gap>0.5”<br><br>Chesapeake Bay Quota: 2,604,982 lbs (part of Baywide quota; includes Susquehanna Flats harvest, excludes trophy harvest) | SF: 5.16-5.31; catch & release only 1.1-5.3<br><br>Chesapeake Bay Trophy: 4.18-5.15 (most tributaries closed)<br>Chesapeake Bay Regular: 5.16-12.15 (most tributaries closed until 6.1)<br><br>Ocean: All year |
| PRFC | Trophy: 28”<br>Regular: 18” min with 1 fish > 28” | Trophy: 1 fish<br>Regular: 2 fish | Quota: 526,989 lbs. (part of Baywide quota; excludes trophy harvest) | Trophy: 4.18 -5.15<br>Regular: 5.16-12.31 |
| DC | 18” min with 1 fish > 28” | 2 fish | Hook & line only | 5.16-12.31 |
| VA | Bay/Coastal Trophy: 32” min (28” Potomac tribs)<br>CB Spring: 18-28”; 1 fish >32”<br>CB Fall: 18–28”; 1 fish >34”<br>Potomac Tribs: 18-28”; 1 fish >28”<br>Ocean: 28” | Bay/Coastal Trophy: 1 fish<br><br>CB Spring: 2 fish<br><br>CB Fall: 2 fish<br>Potomac Tribs: 2 fish<br>Ocean: 2 fish | Hook & line, rod & reel, hand line only<br><br>Chesapeake Bay Quota: 1,430,361lbs in 2012 (part of Baywide quota; excludes trophy harvest) | Bay Trophy: 5.1-6.15 (open 4.18 Potomac tribs)<br>Coastal Trophy: 5.1-5.15<br>CB Spring: 5.16-6.15 (no fish >32” in spawning areas)<br>CB Fall: 10.4-12.31<br>Potomac Tribs: 5.16-12.31<br>Ocean: 1.1-3.31, 5.16-12.31 |
| NC | Roanoke River: 2 fish 18-22” OR 1 fish 18-22” and 1 fish >27”<br>Albemarle Sound: 18” min.<br><br>Ocean: 28” min | Roanoke River: 2 fish<br>Albemarle Sound: 3 fish<br>Ocean: 2 fish | Roanoke River quota: 137,500 lb.<br><br>Albemarle Sound quota: 137,500 lb. | Roanoke River: 3.1 – 4.30 (single barbless hook required 3.1-6.30 from Roanoke Rapids dam downstream to US 258 bridge)<br>Albemarle Sound: Spring 1.1 – 4.30; Fall 10.1-12.31<br>Ocean: All year |

**Table 3. Commercial harvest (pounds) of migratory Striped Bass by state, 1990-2014**.
Source: Annual State Compliance Reports. Note: All harvests based on the calendar year. MD and VA harvests include Chesapeake Bay. NC is Atlantic Ocean only. Commercial harvest and sale prohibited ME, NH, CT, and NJ.

| Year | ME | NH | MA | RI | CT | NY | NJ | DE | MD | PRFC | VA | NC | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1990** | | 37 | 148,000 | 4,000 | | 81,870 | | 6,509 | 2,887 | 169,060 | 267,735 | 9,797 | 689,895 |
| **1991** | | | 235,000 | 28,000 | | 105,163 | | 21,079 | 191,066 | 216,755 | 668,454 | 6,186 | 1,471,703 |
| **1992** | | | 239,200 | 39,000 | | 226,611 | | 17,795 | 552,451 | 127,398 | 204,338 | 27,702 | 1,434,495 |
| **1993** | | | 262,600 | 40,000 | | 109,362 | | 28,032 | 916,764 | 142,742 | 213,665 | 36,463 | 1,749,628 |
| **1994** | | | 199,600 | 39,810 | | 171,279 | | 33,897 | 884,970 | 149,891 | 204,124 | 92,605 | 1,776,176 |
| **1995** | | | 782,000 | 113,461 | | 500,784 | | 38,198 | 856,568 | 198,478 | 557,741 | 343,707 | 3,390,937 |
| **1996** | | | 696,815 | 122,562 | | 504,350 | | 117,560 | 1,523,293 | 346,834 | | 55,771 | 3,367,185 |
| **1997** | | | 785,942 | 96,519 | | 460,762 | | 165,978 | 2,030,061 | 731,114 | 1,153,743 | 458,524 | 5,882,643 |
| **1998** | | | 822,000 | 94,663 | | 484,900 | | 163,169 | 2,368,393 | 726,179 | 1,476,502 | 308,068 | 6,443,874 |
| **1999** | | 33 | 788,171 | 119,679 | | 491,790 | | 187,096 | 2,377,393 | 653,266 | 1,538,220 | 389,454 | 6,545,102 |
| **2000** | | | 779,736 | 111,812 | | 542,659 | | 140,634 | 2,411,554 | 666,001 | 1,883,856 | 162,736 | 6,698,988 |
| **2001** | | | 815,054 | 129,654 | | 633,095 | | 198,802 | 1,774,758 | 658,676 | 1,675,469 | 350,280 | 6,235,788 |
| **2002** | | | 924,870 | 129,172 | | 518,573 | | 160,560 | 1,852,634 | 521,048 | 1,592,910 | 299,508 | 5,999,275 |
| **2003** | | | 1,055,439 | 246,312 | | 753,261 | | 188,419 | 1,813,727 | 676,574 | 1,856,831 | 482,123 | 7,072,686 |
| **2004** | | 203 | 1,206,305 | 245,204 | | 741,668 | | 181,974 | 1,899,539 | 772,333 | 1,668,307 | 604,824 | 7,320,357 |
| **2005** | | | 1,104,737 | 242,303 | | 689,821 | | 173,815 | 2,055,558 | 533,456 | 1,746,247 | 588,601 | 7,134,538 |
| **2006** | | | 1,312,168 | 238,797 | | 688,446 | | 185,987 | 2,207,350 | 673,508 | 1,413,914 | 63,458 | 6,783,628 |
| **2007** | | | 1,040,328 | 240,627 | | 729,743 | | 188,668 | 2,336,886 | 599,261 | 1,534,799 | 380,380 | 7,050,692 |
| **2008** | | | 1,160,122 | 245,988 | | 653,100 | | 188,719 | 2,326,023 | 611,789 | 1,714,564 | 288,410 | 7,188,715 |
| **2009** | | | 1,138,291 | 234,368 | | 789,891 | | 192,311 | 2,394,620 | 727,197 | 1,549,145 | 189,995 | 7,215,818 |
| **2010** | | | 1,224,356 | 249,520 | | 782,402 | | 185,410 | 2,150,577 | 680,496 | 1,434,219 | 272,632 | 6,979,612 |
| **2011** | | | 1,163,865 | 228,163 | | 854,731 | | 188,620 | 1,976,473 | 694,151 | 1,434,636 | 242,600 | 6,783,239 |
| **2012** | | | 1,219,665 | 239,913 | | 681,399 | | 194,324 | 1,928,982 | 733,789 | 1,509,940 | 6,226 | 6,514,238 |
| **2013** | | | 1,004,459 | 231,280 | | 823,801 | | 191,424 | 1,755,712 | 623,792 | 1,185,736 | 0 | 5,816,204 |
| **2014** | | | 1,138,507 | 217,037 | | 531,456 | | 167,902 | 1,926,612 | 603,068 | 1,353,080 | 0 | 5,937,662 |

**Table 4. Commercial harvest (numbers) of migratory Striped Bass by state, 1990-2014, and annual dead discard estimates.**
Source: Annual State Compliance Reports. Note: All harvests based on the calendar year. MD and VA harvests include Chesapeake Bay. NC is Atlantic Ocean only. Commercial harvest and sale prohibited ME, NH, CT, and NJ.

| Year | ME | NH | MA* | RI | CT | NY | NJ | DE | MD | PRFC | VA | NC | Total | *Dead Discards* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1990** | | | 5,927 | 784 | | 11,784 | | 698 | 534 | 38,884 | 56,222 | 803 | 115,636 | *510,011* |
| **1991** | | | 9,901 | 3,596 | | 15,426 | | 3,091 | 31,880 | 44,521 | 44,970 | 413 | 153,798 | *327,167* |
| **1992** | | | 11,532 | 9,095 | | 20,150 | | 2,703 | 119,286 | 23,291 | 42,912 | 1,745 | 230,714 | *186,601* |
| **1993** | | | 13,099 | 6,294 | | 11,181 | | 4,273 | 211,089 | 24,451 | 39,059 | 3,414 | 312,860 | *347,839* |
| **1994** | | | 11,066 | 4,512 | | 15,212 | | 4,886 | 208,914 | 25,196 | 32,382 | 5,275 | 307,443 | *359,518* |
| **1995** | | | 44,965 | 19,722 | | 43,704 | | 5,565 | 280,051 | 29,308 | 88,274 | 23,325 | 534,914 | *515,454* |
| **1996** | | | 38,354 | 18,570 | | 39,707 | | 20,660 | 415,272 | 46,309 | 184,495 | 3,151 | 766,518 | *394,824* |
| **1997** | | | 44,841 | 7,061 | | 37,852 | | 33,223 | 706,847 | 87,643 | 165,583 | 25,562 | 1,108,612 | *216,745* |
| **1998** | | | 43,315 | 8,835 | | 45,149 | | 31,386 | 790,154 | 93,299 | 204,911 | 16,040 | 1,233,089 | *326,032* |
| **1999** | | | 40,838 | 11,559 | | 49,795 | | 34,841 | 650,022 | 90,575 | 205,143 | 21,040 | 1,103,812 | *236,619* |
| **2000** | | | 40,256 | 9,418 | | 54,894 | | 25,188 | 627,777 | 91,471 | 202,227 | 6,480 | 1,057,712 | *666,997* |
| **2001** | | | 40,248 | 10,917 | | 58,296 | | 34,373 | 549,896 | 87,809 | 148,346 | 22,936 | 952,820 | *310,900* |
| **2002** | | | 48,926 | 11,653 | | 47,142 | | 30,440 | 296,635 | 80,300 | 127,211 | 15,784 | 658,091 | *168,201* |
| **2003** | | | 61,262 | 15,497 | | 68,354 | | 31,531 | 439,482 | 83,091 | 161,777 | 13,823 | 874,817 | *261,974* |
| **2004** | | | 66,556 | 15,867 | | 70,367 | | 28,406 | 461,064 | 91,888 | 147,998 | 31,014 | 913,160 | *465,642* |
| **2005** | | | 65,332 | 14,949 | | 70,560 | | 26,336 | 569,964 | 80,615 | 119,244 | 26,573 | 973,572 | *798,544* |
| **2006** | | | 75,062 | 15,429 | | 73,528 | | 30,212 | 655,951 | 92,288 | 109,396 | 2,799 | 1,054,664 | *194,524* |
| **2007** | | | 57,634 | 13,934 | | 78,287 | | 31,090 | 598,495 | 86,695 | 140,602 | 16,621 | 1,023,358 | *606,599* |
| **2008** | | | 65,330 | 16,616 | | 73,263 | | 31,866 | 594,655 | 81,720 | 134,603 | 12,903 | 1,010,955 | *308,715* |
| **2009** | | | 63,875 | 20,725 | | 82,574 | | 21,590 | 618,076 | 89,693 | 138,303 | 8,675 | 1,043,512 | *611,944* |
| **2010** | | | 65,277 | 17,256 | | 81,896 | | 19,830 | 584,554 | 90,258 | 159,197 | 12,670 | 1,030,938 | *254,841* |
| **2011** | | | 63,309 | 14,344 | | 87,349 | | 20,517 | 490,969 | 96,126 | 148,063 | 10,814 | 931,490 | *617,457* |
| **2012** | | | 66,394 | 14,953 | | 66,897 | | 15,738 | 472,517 | 90,616 | 111,891 | 323 | 839,329 | *792,861* |
| **2013** | | | 62,570 | 13,825 | | 76,206 | | 17,679 | 399,118 | 78,006 | 117,697 | 0 | 765,101 | *525,581* |
| **2014** | | | 60,619 | 10,468 | | 52,903 | | 14,894 | 370,661 | 81,429 | 175,324 | 0 | 766,298 | *931,319* |

* includes fish taken for personal consumption

**Table 5. Recreational harvest (pounds) of migratory Striped Bass by state, 1990-2014**

Source: MRIP queried June 26, 2015. Note: All harvests based on the calendar year. Estimates are for March to December, except for North Carolina. Maryland and Virginia harvests include Chesapeake Bay. North Carolina is Atlantic Ocean only.

| Year | ME | NH | MA | RI | CT | NY | NJ | DE | MD | VA | NC | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1990** | 60,483 | 11,363 | 319,092 | 73,349 | 193,011 | 505,440 | 588,974 | 18,115 | 12,967 | 443,751 | - | 2,226,545 |
| **1991** | 58,177 | 6,731 | 440,605 | 496,723 | 125,309 | 1,053,589 | 643,571 | 25,501 | 456,954 | 333,743 | 3,091 | 3,643,994 |
| **1992** | 107,693 | 44,612 | 972,116 | 203,109 | 196,278 | 921,201 | 746,343 | 25,677 | 613,174 | 187,852 | 8,602 | 4,026,657 |
| **1993** | 11,953 | 28,115 | 1,113,446 | 292,428 | 400,067 | 1,575,938 | 874,296 | 52,540 | 794,853 | 505,742 | 1,701 | 5,651,079 |
| **1994** | 66,451 | 66,017 | 1,686,049 | 109,817 | 355,829 | 1,974,759 | 438,080 | 63,832 | 1,096,409 | 870,140 | 50,503 | 6,777,886 |
| **1995** | 45,933 | 67,992 | 1,504,390 | 436,058 | 671,647 | 3,296,025 | 3,141,222 | 175,347 | 2,057,450 | 955,822 | 73,663 | 12,425,549 |
| **1996** | 44,802 | 102,271 | 1,291,706 | 950,973 | 915,418 | 4,809,381 | 1,736,508 | 281,481 | 1,560,389 | 1,340,414 | 89,989 | 13,123,332 |
| **1997** | 185,178 | 206,904 | 2,891,970 | 927,919 | 920,465 | 4,449,564 | 821,784 | 232,186 | 1,962,947 | 2,813,471 | 301,683 | 15,714,071 |
| **1998** | 178,584 | 114,342 | 2,973,456 | 671,841 | 989,923 | 2,318,291 | 1,333,329 | 236,926 | 1,908,344 | 1,581,560 | 150,626 | 12,457,222 |
| **1999** | 98,623 | 84,255 | 1,822,818 | 886,666 | 824,031 | 3,171,344 | 3,342,372 | 100,541 | 1,137,940 | 1,741,857 | 268,026 | 13,478,473 |
| **2000** | 269,325 | 71,370 | 2,618,216 | 1,160,304 | 515,962 | 4,050,569 | 4,286,040 | 346,905 | 2,100,854 | 2,005,721 | 72,946 | 17,498,212 |
| **2001** | 290,233 | 223,072 | 3,644,561 | 1,138,974 | 628,044 | 2,996,805 | 5,341,867 | 382,498 | 2,072,943 | 2,140,713 | 284,449 | 19,144,159 |
| **2002** | 383,270 | 152,342 | 4,304,883 | 1,192,295 | 600,482 | 2,813,596 | 4,133,678 | 299,561 | 1,423,515 | 2,648,115 | 267,406 | 18,219,143 |
| **2003** | 253,910 | 281,549 | 5,120,554 | 1,502,455 | 1,537,899 | 4,687,685 | 4,545,515 | 303,909 | 2,975,437 | 2,789,745 | 772,981 | 24,771,639 |
| **2004** | 226,200 | 98,995 | 6,112,746 | 1,386,138 | 1,617,561 | 3,727,105 | 5,548,167 | 330,623 | 2,347,752 | 2,956,310 | 4,833,112 | 29,184,709 |
| **2005** | 381,058 | 281,114 | 5,097,821 | 1,732,581 | 2,173,638 | 5,537,432 | 5,958,454 | 286,777 | 4,612,417 | 1,996,840 | 2,164,859 | 30,222,991 |
| **2006** | 323,355 | 179,181 | 4,832,355 | 999,300 | 2,030,878 | 6,028,409 | 7,067,533 | 260,134 | 3,868,944 | 3,694,529 | 1,759,796 | 31,044,414 |
| **2007** | 232,328 | 68,142 | 5,136,580 | 1,584,354 | 1,468,499 | 7,913,817 | 3,718,451 | 99,800 | 3,504,041 | 2,392,258 | 876,707 | 26,994,977 |
| **2008** | 271,768 | 73,807 | 5,763,763 | 751,507 | 1,868,335 | 10,925,408 | 4,696,090 | 333,149 | 2,728,048 | 2,657,976 | 525,891 | 30,595,742 |
| **2009** | 329,064 | 113,705 | 4,786,895 | 1,123,434 | 835,970 | 5,004,604 | 4,238,319 | 275,410 | 4,278,145 | 1,791,058 | 160,922 | 22,937,526 |
| **2010** | 104,117 | 67,409 | 4,270,401 | 1,096,369 | 1,259,008 | 6,997,089 | 5,382,743 | 251,853 | 2,630,802 | 481,147 | 453,844 | 22,994,782 |
| **2011** | 91,705 | 370,798 | 3,504,522 | 1,257,302 | 758,623 | 8,969,762 | 6,197,026 | 241,149 | 2,640,309 | 1,160,914 | 2,042,981 | 27,235,091 |
| **2012** | 57,509 | 163,804 | 5,489,928 | 851,460 | 815,545 | 6,540,024 | 2,376,866 | 360,106 | 1,260,490 | 1,353,351 | - | 19,269,083 |
| **2013** | 102,437 | 233,039 | 4,193,416 | 3,043,251 | 2,286,969 | 8,624,422 | 4,945,069 | 253,062 | 2,203,319 | 526,306 | - | 26,411,290 |
| **2014** | 100,213 | 78,310 | 4,397,183 | 2,161,265 | 1,783,224 | 7,552,788 | 4,133,460 | 107,421 | 3,251,151 | 497,152 | - | 24,062,167 |

**Table 6. Recreational harvest (numbers) of migratory Striped Bass by state, 1982- 2014**

Source: MRIP queried June 26, 2015. Note: All harvests based on the calendar year. Estimates are for March to December except for North Carolina. Maryland and Virginia harvests include Chesapeake Bay. North Carolina is Atlantic Ocean only. The table includes wave 1 estimates of harvest (January-February) if MRIP estimated weight for wave 1.

| Year | ME | NH | MA | RI | CT | NY | NJ | DE | MD | VA | NC | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1990** | 2,912 | 617 | 20,515 | 4,677 | 6,082 | 24,799 | 44,878 | 2,009 | 736 | 56,017 | 0 | 163,242 |
| **1991** | 3,265 | 274 | 20,799 | 17,193 | 4,907 | 54,502 | 38,300 | 2,741 | 77,873 | 42,224 | 391 | 262,469 |
| **1992** | 6,357 | 2,213 | 57,084 | 14,945 | 9,154 | 45,162 | 41,426 | 2,400 | 99,354 | 21,118 | 967 | 300,180 |
| **1993** | 612 | 1,540 | 58,511 | 17,826 | 19,253 | 78,560 | 64,935 | 4,055 | 104,682 | 78,481 | 264 | 428,719 |
| **1994** | 3,771 | 3,023 | 74,538 | 5,915 | 16,929 | 87,225 | 34,877 | 4,140 | 199,378 | 127,945 | 7,426 | 565,167 |
| **1995** | 2,189 | 3,902 | 73,806 | 29,997 | 38,261 | 155,821 | 254,055 | 15,361 | 355,237 | 149,103 | 11,450 | 1,089,182 |
| **1996** | 1,893 | 6,461 | 68,300 | 60,074 | 62,840 | 225,428 | 127,952 | 22,867 | 337,415 | 244,746 | 17,136 | 1,175,112 |
| **1997** | 35,259 | 13,546 | 199,373 | 62,162 | 64,639 | 236,902 | 67,800 | 19,706 | 334,068 | 518,483 | 96,189 | 1,648,127 |
| **1998** | 38,094 | 5,929 | 207,952 | 44,890 | 64,215 | 166,868 | 88,973 | 18,758 | 391,824 | 383,786 | 45,773 | 1,457,062 |
| **1999** | 21,102 | 4,641 | 126,755 | 56,320 | 55,805 | 195,261 | 237,010 | 8,772 | 263,191 | 411,873 | 65,658 | 1,446,388 |
| **2000** | 62,186 | 4,262 | 181,295 | 95,496 | 53,191 | 270,798 | 402,302 | 39,543 | 506,462 | 389,126 | 20,452 | 2,025,113 |
| **2001** | 59,947 | 15,291 | 288,032 | 80,125 | 54,165 | 189,714 | 560,208 | 41,195 | 382,557 | 355,020 | 58,873 | 2,085,127 |
| **2002** | 71,907 | 12,857 | 308,749 | 78,190 | 51,060 | 202,075 | 416,455 | 29,149 | 282,429 | 411,248 | 109,052 | 1,973,171 |
| **2003** | 57,765 | 24,878 | 407,100 | 115,471 | 95,983 | 313,761 | 391,842 | 29,522 | 525,191 | 455,812 | 127,727 | 2,545,052 |
| **2004** | 48,816 | 8,386 | 445,745 | 83,990 | 102,844 | 263,096 | 424,208 | 25,429 | 368,682 | 548,768 | 230,783 | 2,550,747 |
| **2005** | 83,617 | 24,940 | 340,743 | 110,490 | 141,290 | 376,894 | 411,532 | 20,438 | 533,929 | 293,161 | 104,904 | 2,441,938 |
| **2006** | 75,347 | 13,521 | 314,987 | 75,811 | 115,214 | 367,835 | 509,606 | 20,159 | 669,140 | 547,482 | 79,023 | 2,788,125 |
| **2007** | 53,694 | 6,348 | 315,409 | 101,400 | 118,549 | 474,062 | 289,656 | 8,465 | 765,169 | 353,372 | 37,376 | 2,523,500 |
| **2008** | 59,152 | 5,308 | 377,959 | 51,191 | 108,166 | 685,589 | 309,411 | 26,934 | 415,403 | 401,155 | 25,750 | 2,466,018 |
| **2009** | 62,153 | 8,587 | 344,401 | 71,427 | 60,876 | 356,311 | 283,024 | 19,539 | 501,845 | 326,867 | 5,650 | 2,040,680 |
| **2010** | 17,396 | 5,948 | 341,045 | 70,108 | 92,806 | 538,374 | 320,413 | 16,244 | 457,898 | 102,405 | 23,778 | 1,986,415 |
| **2011** | 18,105 | 32,704 | 255,507 | 88,635 | 63,288 | 674,844 | 393,194 | 18,023 | 445,171 | 146,603 | 94,182 | 2,230,256 |
| **2012** | 11,624 | 14,498 | 377,931 | 61,537 | 64,573 | 424,522 | 168,629 | 25,399 | 262,143 | 134,758 | 0 | 1,545,614 |
| **2013** | 23,143 | 17,657 | 298,945 | 218,236 | 143,373 | 490,855 | 345,008 | 19,520 | 477,295 | 118,686 | 0 | 2,152,718 |
| **2014** | 20,750 | 6,415 | 277,138 | 103,516 | 86,763 | 409,342 | 225,910 | 8,774 | 583,028 | 67,486 | 0 | 1,789,122 |

**Table 7. Recreational releases (numbers) of migratory Striped Bass by state, 1982-2014, and annual dead discard estimates**
Source: MRIP queried June 26, 2015. Note: All harvests based on the calendar year. MD and VA harvests include Chesapeake Bay. NC is Atlantic Ocean only.

| Year | ME | NH | MA | RI | CT | NY | NJ | DE | MD | VA | NC | Total | *Dead Discards^* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1990** | 12,542 | 15,518 | 339,511 | 67,509 | 89,490 | 265,099 | 254,384 | 14,411 | 420,084 | 175,046 | 0 | 1,653,594 | *148,823* |
| **1991** | 67,490 | 6,559 | 448,735 | 30,975 | 301,476 | 756,663 | 166,198 | 38,334 | 1,036,011 | 208,350 | 256 | 3,061,047 | *275,494* |
| **1992** | 31,177 | 27,613 | 779,814 | 120,410 | 292,259 | 799,149 | 413,506 | 36,932 | 749,959 | 115,899 | 679 | 3,367,397 | *303,066* |
| **1993** | 373,064 | 14,979 | 833,566 | 100,993 | 271,318 | 694,107 | 308,253 | 89,543 | 1,556,848 | 100,374 | 1,524 | 4,344,569 | *391,011* |
| **1994** | 363,703 | 43,501 | 2,102,514 | 138,989 | 489,967 | 1,132,707 | 568,047 | 103,992 | 2,785,392 | 197,022 | 5,005 | 7,930,839 | *713,776* |
| **1995** | 505,758 | 285,486 | 3,280,882 | 356,324 | 507,124 | 1,209,585 | 694,889 | 115,363 | 2,401,277 | 370,949 | 16,225 | 9,743,862 | *876,948* |
| **1996** | 1,626,705 | 292,820 | 3,269,746 | 314,336 | 1,051,612 | 1,436,091 | 776,165 | 99,372 | 2,545,238 | 759,916 | 116,667 | 12,288,668 | *1,105,980* |
| **1997** | 1,417,976 | 279,298 | 5,417,751 | 606,746 | 722,708 | 1,018,892 | 736,734 | 130,073 | 4,019,987 | 1,232,323 | 135,853 | 15,718,341 | *1,414,651* |
| **1998** | 691,378 | 243,301 | 7,184,358 | 613,421 | 1,026,192 | 884,626 | 488,319 | 185,016 | 2,641,680 | 796,372 | 173,704 | 14,928,367 | *1,343,553* |
| **1999** | 649,816 | 145,730 | 4,576,208 | 360,121 | 704,025 | 1,228,628 | 1,152,682 | 105,696 | 2,387,615 | 940,755 | 263,445 | 12,514,721 | *1,126,325* |
| **2000** | 942,593 | 209,606 | 7,382,031 | 541,516 | 926,367 | 1,373,069 | 885,289 | 151,838 | 3,244,731 | 1,022,040 | 129,729 | 16,808,809 | *1,512,793* |
| **2001** | 870,522 | 164,336 | 5,410,899 | 377,474 | 1,107,707 | 824,278 | 965,650 | 162,677 | 2,890,054 | 620,947 | 49,953 | 13,444,497 | *1,210,005* |
| **2002** | 1,392,200 | 238,003 | 5,718,984 | 530,402 | 696,976 | 588,155 | 715,099 | 114,650 | 2,928,589 | 706,729 | 63,269 | 13,693,056 | *1,232,375* |
| **2003** | 846,708 | 260,167 | 4,361,710 | 448,707 | 843,037 | 1,083,808 | 925,885 | 169,012 | 4,652,800 | 970,554 | 48,945 | 14,611,333 | *1,315,020* |
| **2004** | 693,400 | 225,777 | 4,979,075 | 525,936 | 826,724 | 2,709,246 | 1,502,694 | 155,655 | 3,479,634 | 1,732,890 | 222,302 | 17,053,333 | *1,534,800* |
| **2005** | 2,985,203 | 572,633 | 3,988,679 | 633,871 | 1,761,628 | 1,412,191 | 1,218,893 | 251,049 | 3,855,552 | 1,295,768 | 103,432 | 18,078,899 | *1,627,101* |
| **2006** | 4,000,309 | 460,615 | 7,809,777 | 834,953 | 986,700 | 1,722,386 | 1,890,294 | 247,653 | 3,711,343 | 1,655,007 | 24,262 | 23,343,299 | *2,100,897* |
| **2007** | 1,115,068 | 257,372 | 5,331,470 | 677,851 | 984,638 | 1,677,717 | 1,789,294 | 248,689 | 3,064,928 | 949,158 | 13,838 | 16,110,023 | *1,449,902* |
| **2008** | 465,003 | 77,237 | 3,649,415 | 416,373 | 3,104,779 | 1,346,385 | 1,309,453 | 260,677 | 1,338,728 | 532,161 | 10,776 | 12,510,987 | *1,125,989* |
| **2009** | 263,512 | 57,443 | 2,282,601 | 398,686 | 1,161,278 | 1,073,467 | 800,510 | 145,586 | 1,423,332 | 358,991 | 5,407 | 7,970,813 | *717,373* |
| **2010** | 193,743 | 51,833 | 1,671,437 | 183,112 | 670,534 | 1,068,672 | 690,340 | 65,048 | 1,508,647 | 134,350 | 20,365 | 6,258,081 | *563,227* |
| **2011** | 142,505 | 98,693 | 973,192 | 214,302 | 612,367 | 1,506,080 | 884,013 | 110,085 | 1,127,511 | 153,582 | 110,150 | 5,932,480 | *533,923* |
| **2012** | 214,185 | 64,226 | 989,509 | 247,075 | 264,927 | 586,044 | 406,096 | 109,960 | 2,206,518 | 101,736 | 1,615 | 5,191,891 | *467,270* |
| **2013** | 422,598 | 84,015 | 1,691,026 | 826,280 | 778,250 | 989,783 | 1,107,218 | 83,494 | 2,387,277 | 168,989 | 1,057 | 8,539,987 | *768,599* |
| **2014** | 277,209 | 78,612 | 1,826,412 | 163,239 | 303,836 | 726,137 | 1,051,323 | 185,166 | 2,415,192 | 254,795 | 626 | 7,282,547 | *655,429* |

^ Dead discards are estimated by multiplying the number of released fish by a mortality rate of 9%.

**Table 8. Coastal commercial quotas and harvests (in pounds).** MA was the only state with overages in 2013 applied to the 2014 quota. All values in pounds.

| State | Amendment 6 Quota | 2014 Quota | 2014 Harvest | Overage | 2015 Quota (Addendum IV) |
|---|---|---|---|---|---|
| Maine* | 250* | - | - | - | 188 |
| New Hampshire* | 5,750* | - | - | - | 4,313 |
| Massachusetts | 1,159,750 | 1,153,159 | 1,138,507 | - | 869,813 |
| Rhode Island †[0] | 243,625† | 239,963 | 217,037 | - | 181,572 |
| Connecticut** | 23,750** | 23,750 | 803 | - | 17,813 |
| New York † | 1,061,060† | 828,293 | 531,456 | - | 795,795 |
| New Jersey** | 321,750** | 321,750 | 3,653 | - | 241,313 |
| Delaware | 193,447 | 193,447 | 14,894 | - | 145,085 |
| Maryland †[0] | 131,560† | 126,396 | 120,923 | - | 90,727 |
| Virginia | 184,853 | 184,853 | 183,668 | - | 138,640 |
| North Carolina ~ | 480,480 | 480,480 | - | - | 360,360 |

* Commercial harvest/sale prohibited, with no re-allocation of quota.

** Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

† Beginning in 2003, NY (892,293 lbs) and MD (126,396 lbs) quotas reduced due to conservation equivalency; Beginning in 2007, RI (239,963 lbs) quota reduced due to conservation equivalency.

[0] Addendum IV quota reduced through conservation equivalency for MD (90,727 lbs) and RI (181,572 lbs)

~ NC harvests and quotas are for the December 1 to November 30 fishing year.

**Table 9. Chesapeake Bay Quotas and Harvests (pounds), 2014**

| 2014 | Jurisdiction | Quota | Harvest |
|---|---|---|---|
| ***Commercial Fisheries*** | Maryland | 1,925,421 | 1,805,698 |
| | Virginia | 1,402,326 | 1,169,412 |
| | PRFC | 790,484 | 603,068 |
| | **Subtotal** | 4,118,231 | 3,578,178 |
| ***Recreational Fisheries*** | Maryland | 2,604,982 | 3,228,369 |
| | Virginia | 1,402,325 | 497,152 |
| | PRFC | 526,989 | * |
| | **Subtotal** | 4,534,296 | 3,725,521 |
| **Chesapeake Bay Total** | | 8,652,527 | 7,303,699 |

Note: Recreational harvest in the Potomac River is included in Maryland and Virginia harvest estimates. Estimates of recreational harvest in Maryland do not include migratory fish harvested in the spring season. These fish are not counted against Maryland's portion of the Chesapeake Bay recreational quota. The 2014 migratory harvest is estimated at 38,921 fish. The PRFC recreational quota includes the charter boat quota of 65,874 pounds.

**Table 10. Status of commercial Tagging Programs by state for 2013 and 2014.** Quotas are presented in pounds.

| State | MA^ | RI | NY | DE | MD | PRFC | VA | NC |
|---|---|---|---|---|---|---|---|---|
| 2013 Quota | 997,869 | 239,693 | 828,293 | 192,570 | 1,773,138 | 635,623 | 1,414,963 | 480,480 |
| Number of Tags Issued | N/A | 19,184 | 87,330 | 24,000 | 860,340 | 83,063 | 212,100 | 0 |
| Number of Participants | NA | 34 dealers | 465 | 231 | 1185 | 258 | 472 | 0 |
| 2014 Quota | 1,153,159 | 239,963 | 828,293 | 193,447 | 2,051,817 | 724,610 | 1,587,179 | 480,480 |
| Number of Tags Issued | 92,460 | 12,611 | 81,024 | 24,075 | 653,560 | 79,290 | 239,600 | 0 |
| Number of Participants | 125 dealers | 29 dealers | 459 | 236 | 1089 | 253 | 465 | 0 |
| Biological metric[0] | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Limited Entry | No | Yes | Yes | Yes | Yes | Yes | Yes | No |
| Point of Tag | Sale | Sale | Harvest | Harvest and Sale | Harvest | Harvest | Harvest | Sale |
| Accounting of all tags? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Tag Color Changes Annually? | Yes | Yes | No | Yes | Yes | Yes | Yes | No |
| # of Tag Colors | 1 | 2 | 1 | 2 | 3* | 7 | 2 | 3 |
| Tag Color By (gear, season, area) | N/A | Gear | N/A | Fishermen/ Dealer | Fishery (ITQ/Common Pool) and Area | Gear | Area | Area |
| Year, state and unique ID on Tag | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Size Limit on Tag | Yes | No | No | No | No | No | Yes | No |

^ MA was granted an extension through Addendum III and mandated to implement a commercial tagging program prior to start of 2014 fishing year.
* MD changed tag color scheme in 2014 from five to three which reflects commercial fishery transition to an ITQ system between 2013 and 2014 fishing seasons.
[0] Sates are required to allocate commercial tags to permit holders based on a biological metric. Most states used the average weight per fish from the previous year, or some variation thereof. Actual biological metric used is to be included in State Annual Commercial Tag Reports.

**Table 11. Status of compliance with monitoring and reporting requirements, 2014**
(JAI = juvenile abundance index survey, SSB = spawning stock biomass survey, tag = participation in coastwide tagging program, Y = compliance standards met, N = compliance standards not met, na = not applicable)

| Jurisdiction | Fishery-independent monitoring | | Fishery-dependent monitoring | | Annual reporting |
|---|---|---|---|---|---|
| | Requirement(s) | Status | Requirement(s) | Status | Status |
| ME | JAI | Y | x | na | Y |
| NH | x | na | x | na | Y |
| MA | tag | Y | composition, catch & effort (C&R), tag program | Y | Y |
| RI | x | na | composition (C&R), catch & effort (R), tag program | Y | Y |
| CT | x | na | composition, catch & effort (R) | Y | Y |
| NY | JAI, SSB, tag | Y | composition, catch & effort (C&R), tag program | Y | Y |
| NJ | JAI, tag | Y | composition, catch & effort (R) | Y | Y |
| PA | SSB | Y | x | na | Y |
| DE | SSB, tag | Y | composition, catch & effort (C), tag program | Y | Y |
| MD | JAI, SSB, tag | Y | composition, catch & effort (C&R), tag program | Y | Y |
| PRFC | x | na | composition, catch & effort (C&R), tag program | Y | Y |
| DC | x | na | x | na | Y |
| VA | JAI, SSB, tag | Y | composition, catch & effort (C&R), tag program | Y | Y |
| NC | JAI, SSB, tag | Y | composition (C), tag program | Y | Y |

# Atlantic States Marine Fisheries Commission

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703.842.0740 • 703.842.0741 (fax) • www.asmfc.org


**Atlantic Menhaden Board Working Group**
Conference Call
July 23, 2015

**Board Working Group Members:** Robert Boyles (SC), Lynn Fegley (MD), Bob Ballou (RI), Rob O'Reilly (VA), Jim Gilmore (NY), Russ Allen (NJ)

**ASMFC Staff:** Mike Waine, Toni Kerns, Tina Berger

**Public:** Shaun Gehan (Omega), Jack Travelstead (CCA), Aaron Kornbluth (PEW), Megan Lapp (Sea Freeze), Andre Buchheister (CBL), Dave Sikorski (CCA MD), Bill Goldsborough (MD Commissioner), Ron Lukens (Omega), Jeff Kaelin (Lunds), Robert Crockett (VA Bait), Ida Hall (PRFC), AJ Erskine (Mid Atl. Bait), Eric Reid (RI Commissioner)

The Atlantic Menhaden Management Board established a Board Working Group (WG) to revisit quota allocation as required by Amendment 2 to the Fishery Management Plan for Atlantic Menhaden. The WG discussions on allocation are part of the preliminary steps in the Amendment 3 process. Potential allocation options developed by the working group would be reviewed by the full Board prior to inclusion in a Public Information Document which is the scoping phase of Draft Amendment 3. Staff noted that there will be two separate rounds of public comment during the Amendment process, a Public Information Document that will scope the management issues being considered, and then a Draft Amendment which will further develop specific management options.

The WG started by creating a broad characterization of the full range of allocation options that could potentially be considered by the Board for inclusion in Amendment 3. They discussed that some options would be the same as ones previously considered in Amendment 2, and others would be completely new concepts. Generally, the intent of the WG was to start broad with a complete list of allocation options and then focus in on the specifics of each potential option to discuss its applicability and usefulness to Atlantic menhaden management. The WG proposed the following goal statement and list of potential allocation options with factors to be considered.

Draft Goal:
Fair and equitable distribution of coastwide total allowable catch among states/jurisdictions, regions, and fishery interests.

Allocation Options to be Considered:

1. Coastwide quota
2. Regional quotas
3. State-by-state quotas (status quo)
4. Seasonal quotas
5. Separate quotas for bait and reduction fisheries (end uses)
6. Separate quotas for small-/medium-/large-scale fisheries (gear type/harvest capacity)
7. Small capacity set aside (allocation with a small range so that fluctuations in the fisheries can be monitored)
8. Minimum fixed quotas levels

The WG also added a list of potential factors or issues that should be considered when discussing any allocation scenario.

Potential Factors to be Considered:

A. Historical catch or landings (considering timeframe and data availability)
B. Commercial capacity/interest (e.g., harvesting and processing)
C. Availability and distribution of resource
D. Biological and ecological principles (e.g., size selectivity)
E. Needs and interests of small-scale fixed gear versus large-scale mobile gear
F. Bycatch allowance (defining non-directed catch of menhaden in other fisheries)
G. Transfers
H. Credit for biological monitoring that guards against local depletion
I. Credit for data collection programs and improved water quality
J. Incentive for sound ecological and biological use of the resource
K. Incentive for reduced discard mortality
L. Incentive for management and operational efficiencies
M. Research set aside
N. Ongoing provision for revisiting allocation

The WG expressed concern over incomplete landings history that may limit the applicability of some allocation options listed above. The WG encouraged states to contact staff if there are known issues with the available landings data provided for the allocation discussion. Pending Board review at the August Board meeting, the WG plans to further develop the list of allocation options for review by the Board at ASMFC's 2015 Annual Meeting.

# Atlantic States Marine Fisheries Commission

# NEWS RELEASE

*Vision: Sustainably Managing Atlantic Coastal Fisheries*

FOR IMMEDIATE RELEASE
July 1, 2015

PRESS CONTACT: Tina Berger
703.842.0740

## ASMFC Schedules Atlantic Menhaden Ecosystem Management Objectives Workshop for August 31-September 1

Arlington, VA – Based on the findings of the 2015 Atlantic Menhaden Benchmark Stock Assessment and Peer Review, the Commission's Atlantic Menhaden Management Board initiated Draft Amendment 3 to the Fishery Management Plan. The Draft Amendment will consider changes to the management program including the development of ecological reference points that reflect Atlantic menhaden's role as a forage species. To aid in the development of these reference points, the Commission has established a multi-disciplinary working group to identify potential ecosystem goals and objectives for Board review and consideration. The working group contains a broad range of representation including, Commissioners, advisors, and technical representatives to provide various perspectives on menhaden management.

"This workshop reflects the Commission's continued commitment to fully evaluating the importance of Atlantic menhaden to the ecosystem and harvesters. This process will benefit from the expertise and input of managers, stakeholders, and scientists that are committed to the sustainable management of this valuable resource," stated Board Chair Robert Boyles from South Carolina. "The anticipated outcome of the workshop will be potential goals and objectives for ecosystem management that the Atlantic Menhaden Management Board will consider as part of the Public Information Document for Draft Amendment 3."

**Ecosystem Management Objectives Workshop Participants**

Board Subgroup
Bob Ballou (RI, Menhaden Board Vice Chair)
Jim Gilmore (NY)
Russ Allen (NJ)
Lynn Fegley (MD)
Rob O'Reilly (VA)
Robert Boyles (SC, Menhaden Board Chair)

Advisory Panel Subgroup
David Sikorski (recreational)
Ken Hinman (ecosystem)
Ron Lukens (reduction)
Jeff Kaelin (bait, AP Chair)

Technical Representatives
Amy Schueller (NMFS, SAS Chair)
Jason McNamee (RI, TC Chair)
Matt Cieri (ME, BERP Chair)

Facilitator
Michael Jones (SEDAR 40 Review Panel Chair)



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The workshop will be facilitated by Dr. Michael Jones, who chaired the Peer Review Panel for the 2015 Atlantic Menhaden Benchmark Stock Assessment. Dr. Jones brings a working knowledge of Atlantic menhaden science and management, as well as expertise of ecosystem management in the Great Lakes region. The workshop will be preceded by a webinar that will review topics to be covered, expectations, and workshop goals, as well as provide participants an opportunity to ask questions and make suggestions on the process. The webinar will also feature an ecosystem management case study from the Great Lakes region to help guide the ecosystem management workshop for Atlantic menhaden.

The public is welcome to attend the webinar and workshop. Since the webinar and workshop will be working meetings, there will be a limited opportunity for the public to provide comments at the end of the meeting if time permits. The webinar will be held on **Friday, August 14 at 9 AM**; please go here to register, and call 866.244.8528 and enter passcode 629107 to join the conference call. The workshop will be conducted on **August 31 and September 1** from 8:30 AM to 5 PM at the Hotel at Arundel Preserve, 7795 Arundel Mills Boulevard, Hanover, Maryland 21076; 888.624.4011. Space may be limited; please contact Mike Waine, Senior Fishery Management Plan Coordinator, at mwaine@asmfc.org or 703.842.0740 if you are interested in attending.

Since Draft Amendment 3 will also consider changes to current state-by-state allocation, a working group of the Management Board (see Board Subgroup membership in text box on page 1) has been established to begin discussions on various allocation schemes to help inform the Board as it develops options to be included in the Draft Amendment. The Working Group will meet via webinar on **Wednesday, July 15 at 1 PM**; please go here to join webinar and call 888.394.8197 and enter passcode: 815277 to join the conference call. As with the ecosystem webinar and workshop, the public is welcome to listen in on the webinar. If time permits, there will be a limited opportunity for the public to provide comments at the end of the meeting.

It is important to note that no management decisions are being formulated or acted upon at the workshop or the webinars. The meetings are a means to initiate discussions on ecosystem objectives and allocation schemes, allowing for the identification of issues and options for Board discussion and consideration. There will be several opportunities throughout the amendment development process for interested stakeholders and the public to submit public comment.

Additional meetings of both working groups may be scheduled. If you are not already on the ASMFC email alerts for Atlantic menhaden, please email info@asmfc.org (Subject line: Menhaden Meetings) to receive email updates on these meetings.

###

## Tina Berger

**From:** Comments
**Sent:** Wednesday, May 06, 2015 4:21 PM
**To:** Amy Hirrlinger
**Cc:** Mike Waine
**Subject:** FW: Menhaden

To include in public comment for the next menhaden board meeting.

-----Original Message-----
From: Joe [mailto:walker9379@aol.com]
Sent: Tuesday, May 05, 2015 12:27 PM
To: Comments
Subject: Menhaden

Shame on all of you who voted for an Increase on the Menhaden TAC. Once again it proves big money is more important than the health of our bays and harbors. Smh.

Sent from my iPhone

**Tina Berger**

**From:** Capt. Paul Eidman <paulyfish@reeltherapy.com>
**Sent:** Wednesday, May 06, 2015 1:45 PM
**To:** Mike Waine
**Subject:** Comments not read yesterday
**Attachments:** paul Public Comments on Behalf of Menhaden Defenders 5 5 15 eidman.docx

Hi Mike-
I know this is water under the bridge, but just for the record, we along with many others were all set to read comments yesterday but due to time constraints were not able to.
I attach them for your review and submittal. Please let me know you got them and if this is acceptable.
Thanks,
Paul

Capt. Paul Eidman

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www.reeltherapy.com
www.anglersconservationnetwork.org
www.menhadendefenders.org

Public Comments on Behalf of Menhaden Defenders 5 5 15

Addressing the Atlantic States Marine Fisheries Commission (ASMFC)

Thank you Mr Chairman for giving us the opportunity to make comments on this important issue.

Back in 2012 you moved forward and the majority of you progressively voted to limit harvest on this vital forage species and we thank you for that.

We sit together again just a few years later, to consider how to manage menhaden in light of a positive benchmark stock assessment. The biomass increase found in the study is a good thing and we are excited to see that given just a little bit of moderation in harvest, the Menhaden can rebound.

As expected at the first positive signs of population increase, the profitable industry that surrounds this free public resource is calling for an increase in total allowable catch. We feel that this would be a premature step backwards and find that it would be hypocritical of the ASMFC to vote to catch more after the decision made after many hours of deliberation over how important abundance of Menhaden is.

Increasing harvest levels at a time when our ecosystem and many gamefish are hanging on by a thread makes ZERO sense. It is very clear to those on the water especially to the North and South of the Mid Atlantic region that more work must be done. Yes, the stock assessment showed that there was a positive increase in the spawning stock biomass, but it also states very clearly that the overall stock is still lacking abundance in its range.

We ask, if these fish have recovered and are so abundant, then why does the fishery still hire pilots and planes to find them?

Where I live in New Jersey, trucks are still being loaded each night and driving 450 miles northward to supply New England lobstermen with trap bait. This is a clear sign that Menhaden are STILL not abundant in the entire historic range. There are still NO BUNKER up North. We have always questioned interstate transport and feel that baitfish should be abundant enough so that Baymen can collect their own trap bait locally without having to pay for it.

We have also always questioned why Omega Protein Inc, with its 196 foot long ships insists upon fishing the mouth of the Chesapeake Bay, the largest fish nursery on the east coast. This is not acting sustainably nor as “a friend to the sea” as they claim. In our view, this is an incredibly selfish act and on this industrialized scale, Omega is preventing these fish from fulfilling their role in the ecosystem. As if this wasn’t bad enough, these same fish are ground up into fish meal and shipped to China’s fish farms. It is pathetic to see the backbone of our ecosystem being sold for pennies on the pound as fishing for Striped Bass, Tuna, etc deteriorates.

Omega continues to use job loss as rationale for increasing catch limits when in fact hundreds more fishing related jobs, both commercial and recreational are lost COASTWIDE because of lack of abundant predator fish. We recognize the proud people from Reedville in the room and respect the fact that you all need to make a living too, but we ask that your employer, Omega Protein keep the health of the entire coast in mind.

In closing, we implore commissioners to hold your course by supporting NO CATCH INCREASE in 2015. We also ask that the Board quickly move toward catch limits based on ecological reference points, ones that take the needs of predators into account. Finally, we ask that the Board reallocate the total allowable catch fairly so that family owned small businesses, (local Baymen) who need more quota can have a longer and more profitable season.

Thank you,

Capt. Paul Eidman

Founder of Menhaden Defenders

Owner of Reel Therapy Fishing Charters NJ

# Atlantic States Marine Fisheries Commission

## *Annual Performance of the Stocks: 2015 Review*

## July 2015

**Objective:** – Support the ISFMP Policy Board's review of stock rebuilding performance and management board actions and provide direction to management boards for 2015 Action Plan.

A. Validate status/rate of progress (acceptable/not acceptable)
B. If not acceptable, identify appropriate corrective action

**Species Groups:** – Species are grouped under five major categories (1) rebuilt/sustainable; (2) recovering/rebuilding; (3) concern; (4) depleted; and (5) unknown, as defined below.

**Rebuilt/Sustainable** – Stock biomass is equal to or above the biomass level established by the FMP to ensure population sustainability. When between benchmark assessments a stock can still be considered rebuilt/sustainable if it drops below the target but remains above the threshold.

**Recovering/Rebuilding** – Stocks exhibit stable or increasing trends. Stock biomass is between the threshold and the target level established by the FMP.

**Concern** – Those stocks developing emerging issues, e.g., increased effort, declining landings, or impacts due to environmental conditions.

**Depleted** – Reflects low levels of abundance though it is unclear whether fishing mortality is the primary cause for reduced stock size

**Unknown** – There is no accepted stock assessment to estimate stock status.

## Status as of 2015

**Rebuilt/Sustainable:**
American Lobster (GOM/GBK)
Atlantic Herring
Atlantic Menhaden
Black Drum
Bluefish
Scup
Spanish Mackerel
Spiny Dogfish

**Recovering/Rebuilding:**
Red Drum

**Concern:**
Atlantic Croaker
Atlantic Striped Bass
Black Sea Bass
Coastal Sharks
Horseshoe Crab
Tautog
Summer Flounder
Winter Flounder (GOM)

**Depleted:**
American Eel
American Lobster (SNE)
American Shad
Northern Shrimp
River Herring
Weakfish
Winter flounder (SNE/MA)

**Unknown:**
Atlantic Sturgeon
Jonah Crab
Spot
Spotted Seatrout

## Status as of 1998

**Rebuilt/Rebuilding**
Atlantic Herring
Atlantic Striped Bass
Bluefish
Black Sea Bass
Spanish Mackerel
Summer Flounder

**Concern/Depleted**
American Lobster (SNE)
Atlantic Menhaden
Northern Shrimp
Red Drum
Scup
Spiny Dogfish
Tautog
Weakfish
Winter Flounder (SNE/MA and GOM)

**Unknown**
American Eel
American Shad
Atlantic Croaker
Atlantic Sturgeon
Horseshoe Crab
River Herring
Spot
Spotted Seatrout

## Summary Table of Rebuilt/Sustainable Species

| Species | Biomass % of Target | Assessment Schedule | Caveats/Notes (what actions need to be taken to maintain rebuilt status) |
|---|---|---|---|
| American Lobster (Gulf of Maine/Georges Bank) | 375% of abundance threshold (2015 assessment) | | The stock is not overfished and overfishing is not occurring. Dramatic stock abundance increase since the late 1980's and at an increasing rate since 2005. Average spawning stock and recruit abundance are above the 75$^{th}$ percentile while young of year indicators are generally below the median. |
| Atlantic Herring | >200% of biomass target adjusted for retrospective bias (Operational Assessment 2015) | | Area 1A annual quota fully harvested for last several years, with the exception of 2012. Harvest controls implemented to slow landings (TAC, days-out). Draft Amendment 3 to explore spawning protections. |
| Atlantic Menhaden | 90% of fecundity target | Assessment Update - 2017 | The stock is not overfished and is not experiencing overfishing. Abundance of older fecund fish in the population. Significant changes occurred through the benchmark assessment including the addition of fishery independent datasets and a change the model structure to incorporate the spatial resolution of the reduction and bait fisheries. |
| Black Drum | 192% of $B_{MSY}$ (2015 assessment) | | The stock is not overfished and is not experiencing overfishing. |
| Bluefish | 77% of SSB target (2015 Benchmark assessment) | SARC 60 Benchmark Assessment – completed June 2015 | The stock is not overfished and is not experiencing overfishing. Due to life history characteristics (pelagic species, opportunistic feeder, multiple spawning events per years), bluefish are considered less vulnerable to becoming overfished relative to the updated Biological Reference Points. Updated Biological reference points do reflect a 24% decrease in SSB relative to SARC 41 due to new information and configurations of the model (SARC 60). |
| Scup | 209% of SSB target (2015 Benchmark assessment) | SARC 60 Benchmark Assessment – completed June 2015 | The stock is not overfished and is not experiencing overfishing. There is no consistent internal retrospective pattern in F, SSB, or recruitment evident in the scup assessment model. |
| Spanish Mackerel | $SSB_{2011}/SSB_{MSY}$=1.49; $SSB_{2011}/M_{SST}$=2.29 (2012 benchmark stock assessment) | | The stock is not overfished and is not experiencing overfishing. |
| Spiny Dogfish | 100% of SSB Target (2013 NEFSC update) | Assessment Update - Fall 2015 | 2008-2013 SSB exceeded target SSB. Increased recruitment in the past four years suggests a 'filling out' of the oscillations in future population projections. |

## Summary Table of Species Undergoing Recovery/Rebuilding

| Species | Biomass<br>% of Target | Assessment<br>Schedule | Caveats/Notes<br>(what actions need to be taken to continue rebuilding) |
|---|---|---|---|
| Red Drum | Unknown, but age 1-3 abundance generally increasing (NJ-NC) or stable (SC-FL); overfishing not occurring. | Benchmark Assessment 2015 | Northern stock component above SPR target; cannot determine similar results for southern component due to uncertainty. Lack of adequate adult data results in estimates of abundance and exploitation for fish age 1-3 only, and only the trend is reliable for the southern component. Age 1-3 exploitation generally increasing in southern region since 1992. |

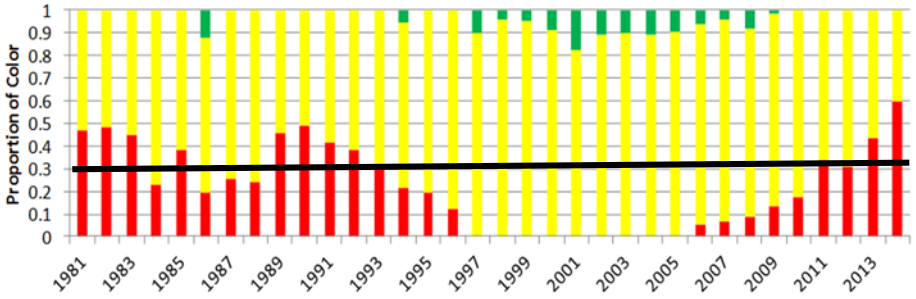
# Overview of Species of Concern

## Atlantic Croaker: Concern

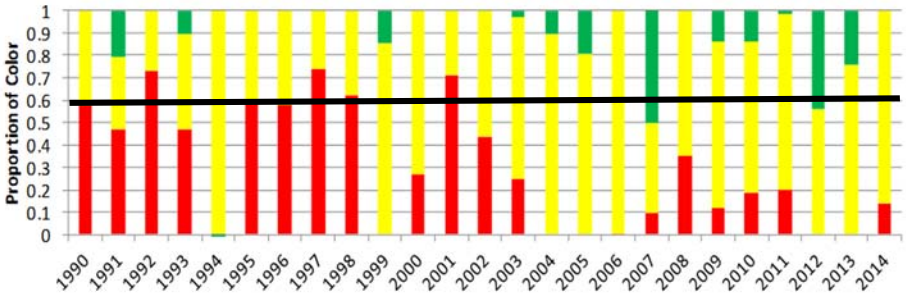
### 2010 Stock Assessment Findings

- Atlantic croaker is not experiencing overfishing. Biomass has been increasing and the age-structure of the population has been expanding since the 1980's. Atlantic croaker are considered to be a single stock on the Atlantic coast.
- Due to a high degree of uncertainty in the amount of shrimp trawl discards, the overfished status could not be determined. Similarly, values of spawning stock biomass (SSB) and fishing mortality (F) are not considered reliable; however, estimated trends show increasing biomass and decreasing fishing mortality.

**Harvest composite characteristic index for Atlantic croaker.**




**Adult abundance composite characteristic index for Atlantic croaker.**




Management response is triggered when proportion of red exceeds the 30% threshold level (black line) for three consecutive years in both fishery characteristics (landings and fishery-independent survey indices).

Timeline of Management Actions: FMP ('87); Amendment 1 ('05); Addendum I ('11); Addendum II ('14)

### Board Adherence to Scientific Advice

- In July 2015, the PRT completed traffic light analysis for the 2014 fishing year, as per Addendum II. The results showed declining trends in the fishery independent indices as well as a drop in both commercial and recreational landings. While the harvest index was above the 30% threshold with a red proportion of 44.5%, management measures were not tripped since the abundance index was below the threshold at 14.2%.

### Scientific Advice Based on Assessment Findings

- The 2010 Review Panel stressed the importance of developing valid estimates of shrimp trawl discards to improve the certainty of future assessment results. The following were also highlighted as needs for data and analysis:
    - Fishery-dependent biological sampling to improve age length keys
    - More information on growth rates, age structures, estimates of fecundity, and maturity
    - Increased focus on collecting subsamples in the species southern range through fishery independent surveys

### Monitoring and Management

- Under the TLA management program, if thresholds for both population characteristics (adult abundance and harvest) achieve or exceed the management threshold of 30% for the specified three year period, management action will be taken.

**Rebuilding Trajectory:** Increasing

**Next Assessment:** Benchmark stock assessment scheduled for 2016

# Overview of Species of Concern

## Atlantic Striped Bass: Concern

### 2013 Benchmark Assessment Findings

- Assessment results show F in the terminal year (2012) was above the new F target, and SSB has been steadily declining below the target since 2006 (F and SSB Figures). This indicates that even though the stock is not overfished and overfishing is not occurring, SSB is approaching its overfished threshold and stock projections show SSB will likely fall below the threshold in the coming years because of poor year classes from 2005-2010 that are moving through fishery.
- The 2011 year class was strong and will mature into the spawning stock in 2016-2017 (recruitment/SSB figure below).

### Scientific Advice Based on Assessment Findings

- The 2013 benchmark stock assessment approved by the Board for management use recommended changes to the fishing mortality (F) reference points to be consistent with the spawning stock biomass (SSB) reference points. In order to achieve the proposed F reference points, the Board will need to reduce harvest across all sectors.

### Board Adherence to Scientific Advice

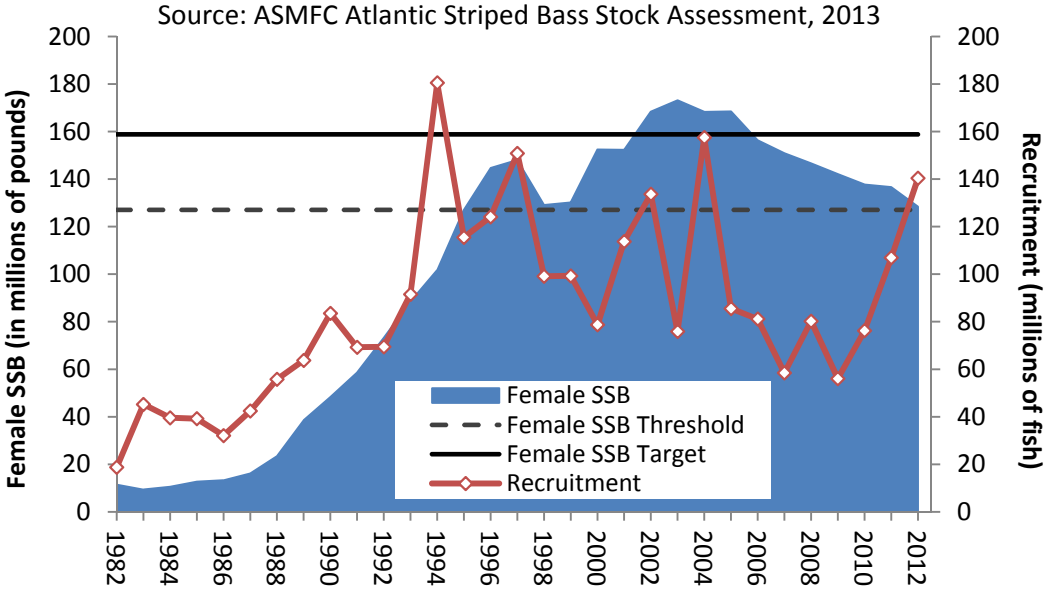
- In response to results of the 2013 benchmark assessment, the Board approved Addendum IV in 2014 which implemented new F reference points as well as state-level regulations to reduce F to a level that is at or below the new F target for the 2015 fishing season.
- Final state regulations implemented through Addendum IV were approved by the Board in May 2015 and consisted of bag and size limit changes in the recreational fishery and quota reductions in the commercial fishery.

**Next Assessment:** 2015 stock assessment update. Next benchmark assessment is scheduled for 2018

**Rebuilding Trajectory:** Spawning stock biomass declining

**Atlantic Striped Bass Female SSB & Recuitment**

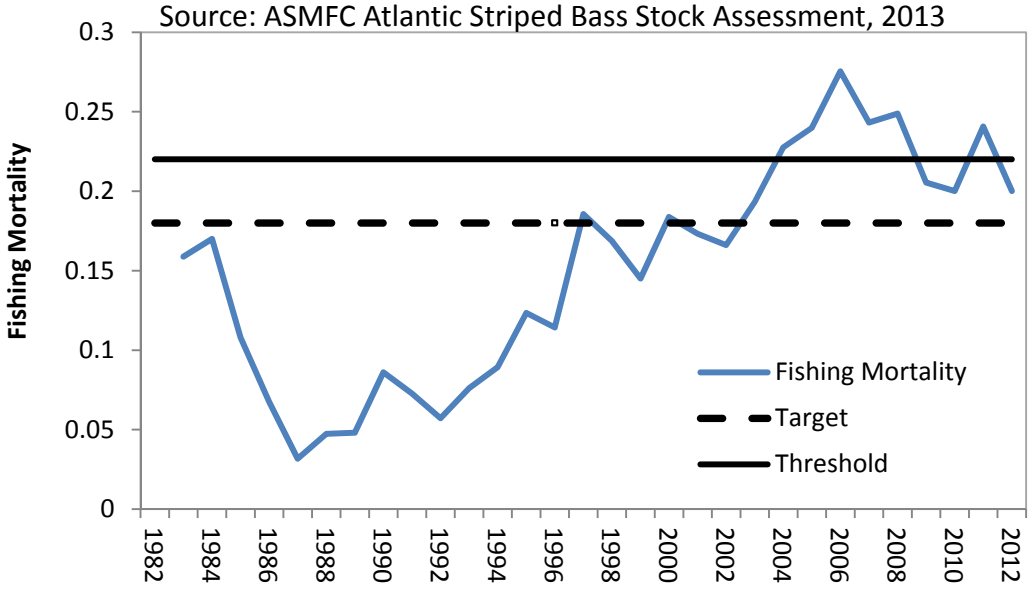
Source: ASMFC Atlantic Striped Bass Stock Assessment, 2013




Timeline of Management Actions: Amendment 1 & 2 (1984); Amendment 3 (1985); Amendment 4 (1990); Amendment 5 (1995); Amendment 6 (2003); Addendum I (2007); Addendum II (2010); Addendum III (2012), Addendum IV (2014)

**Atlantic Striped Bass Fishing Mortality**

Source: ASMFC Atlantic Striped Bass Stock Assessment, 2013




* The F estimate for 1982 was considered unrealistic and unreasonable high, and is not shown on this graph.

# Overview of Species of Concern

## Black Sea Bass: Concern

### Assessment Findings

- Although the resource was declared rebuilt in 2009, black sea bass' unique life history characteristics (e.g., the species changes sex from female to male) contributes to some level of uncertainty about the size of the stock, as well as the species' response to exploitation.
- Due to the uncertainty an over fishing limit (OFL) cannot be specified for the fishery, which means a level of catch cannot be derived from model results.
- 2012 assessment indicates resource is not overfished nor experiencing overfishing, with biomass estimated at 102% of the biomass target.

### Significant Sources of Uncertainty

- Assessment assumes a completely mixed stock, while tagging information suggest otherwise
- Evidence of changes in the spatial distribution of the species, specifically an expansion of the species into more northern areas.
- Due to the unusual life history strategy (females changing sex to male) the assumptions of a constant natural mortality rate (M) in the model for both sexes may not adequately capture the dynamics in M.
- The unique life history also makes the determination appropriate reference points difficult

### Prioritized Research to Reduce Scientific Uncertainty

- Develop reference points and assessment methods to account for the unique life history.
- Explore the utility of a spatially structured assessment to address the incomplete mixing of the stock
- Evaluate the implication of range expansion to stock and fishery dynamics

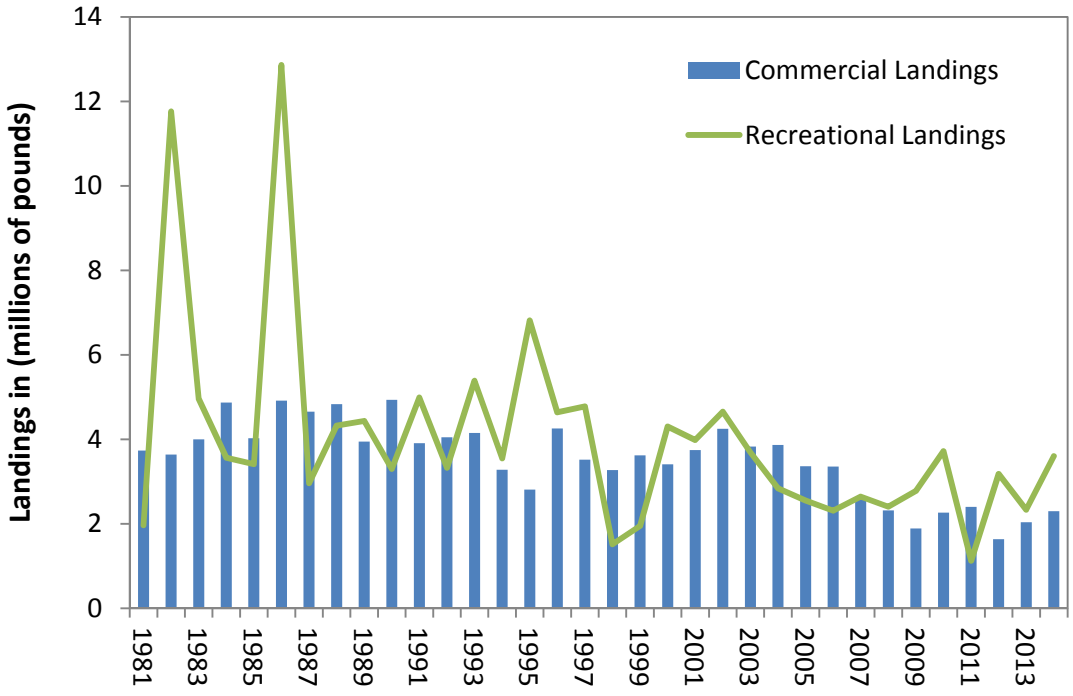
**Scientific Advice Based on Assessment Findings**

**Board Adherence to Scientific Advice**

**Next Assessment:**
Benchmark assessment in December 2016

**Rebuilding Trajectory:**
unknown

**Black Sea Bass Commercial and Recreational Landings**
Source: ACCSP and MRIP, 2015




Timeline of Management Actions: FMP ('96); Amendment 10 ('97); Amendment 11 ('98); Amendment 12 ('99); Amendment 13 ('03); Addenda II & III ('04); Addendum XVI ('05); Addendum XIX ('07); Addendum XX ('09); Addendum XXI ('11); Addendum XXIII ('13); Addendum XXV ('14)

# Overview of Species of Concern

## Coastal Sharks: Concern

**Assessment Findings**

| Species or Complex Name | Stock Status | | References/Comments |
|---|---|---|---|
| | Overfished | Overfishing is Occurring | |
| **Pelagic** | | | |
| **Porbeagle** | Yes | No | Porbeagle Stock Assessment, ICCAT Standing Committee on Research and Statistics Report (2009) |
| **Blue** | No | No | ICCAT Standing Committee on Research and Statistics Report (2008) |
| **Shortfin mako** | No | No | ICCAT Standing Committee on Research and Statistics Report (2012) |
| **Large Coastal Sharks (LCS)** | | | |
| **Blacktip** | Unknown | Unknown | SEDAR 11 (2006) |
| **Aggregated Large Coastal Sharks - Atlantic Region** | Unknown | Unknown | SEDAR 11 (2006); difficult to assess as a species complex due to various life history characteristics/ lack of available data |
| **Small Coastal Sharks (SCS)** | | | |
| **Atlantic Sharpnose** | No | No | SEDAR 34 (2013) |
| **Bonnethead** | No | No | SEDAR 34 (2013) |
| **Finetooth** | No | No | SEDAR 13 (2007) |
| **Hammerhead** | | | |
| **Scalloped** | Yes | Yes | SEFSC Scientific Review by Hayes, et al. (2009) |
| **Blacknose** | | | |
| **Blacknose** | Yes | Yes | SEDAR 21 (2010) |
| **Smoothhound** | | | |
| **Smooth Dogfish** | No | No | SEDAR 39 (2015) |
| **Research** | | | |
| **Sandbar** | Yes | No | SEDAR 21 (2010) |
| **Prohibited** | | | |
| **Dusky** | Yes | Yes | SEDAR 21 (2010) |

**Board Adherence to Scientific Advice**

- Based on TC advice, the Board approved FMP regulations that generally complement regulations in federal waters, ensuring F does not exceed $F_{MSY}$ or $F_{REBUILD}$, and protecting sandbar shark pupping grounds in state waters.
- There is general concern among members of the TC that a 12-to-88 fin-to-carcass ratio may create a loophole because different states retain different fin sets. The Board approved Addendum V to remove the fin-to-carcass ratio for spiny dogfish, which is consistent with the Shark Conservation Act.
- The Coastal Sharks Management Board approved a July 1, 2015 opening date for the large coastal sharks species group. All other species groups will open in conjunction with federal waters' fisheries. Additionally,

- Based on the TC recommendation, the Board approved a 36 fish possession limit for sharks in the large coastal shark species group (silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead sharks) for 2015.

### Monitoring and Management Measures

- May 15 – July 15 closed season from NJ-VA to protect pupping females for the following species: silky, tiger, blacktip, spinner, bull, lemon, nurse, scalloped hammerhead, great hammerhead, and smooth hammerhead.
- Fins to remain attached to the carcass through landing for all species except smooth dogfish.
- Recreational fishing controlled through possession limits with a 4.5' fork length size limit for all species except for Atlantic sharpnose, finetooth, blacknose, and bonnethead which do not have a size limit, and 6.5' for all hammerhead shark species.
- Recreational anglers can only harvest sharks caught with a handline or rod & reel.

**Next Assessment:** Variable by species/complex

**Rebuilding Trajectory:** Variable by species/complex

# Overview of Species of Concern

## Horseshoe Crab: Concern

### Assessment Findings

- Abundance has increased in the Southeast and Delaware Bay Region (New Jersey through coastal Virginia), and decreased in New York and New England.
- In the Delaware Bay, increasing trends were most evident for juveniles, followed by adult males. A small increase in adult females is now beginning to be observed in the Virginia Tech Benthic Trawl Survey. These patterns are indicative of population recovery, given that horseshoe crab females take longer to mature than males.
- Declines in the New England population were also apparent in the 2004 assessment; however, declines in New York represent a downturn from the 2004 assessment. The Technical Committee believes decreased harvest quotas in Delaware Bay encouraged increased harvest in nearby regions.
- The Technical Committee recommends continued precautionary management to address effects of redirected harvest from Delaware Bay to outlying populations.

**Regional Trends in Horseshoe Crab Abundance**

| Region | Time series duration of longest dataset | Conclusion about population change |
|---|---|---|
| **New England** | 1978 - 2008 | Declined |
| **New York** | 1987 - 2008 | Declined |
| **Delaware Bay** | 1988 - 2008 | Increased |
| **Southeast** | 1993 - 2009 | Increased |

### Needed Information/Data

- Coastwide survey or surveys by broader geographical region
- Reference points
- A mechanism to include biomedical landings in regional assessments without compromising data confidentiality

### Board Adherence to Scientific Advice

- Addendum VII, approved in 2012, implemented the Adaptive Resource Management (ARM) framework, which was used to set annual specifications for horseshoe crabs of Delaware Bay origin. 2013 was the first year the ARM framework was used.

### Monitoring and Management Measures

- Precautionary cap on harvest
- Reporting harvest for bait by month, sex, and harvest method (done consistently)
- Reporting biomedical harvest and mortality (inconsistent methods of reporting across states)
- Identify spawning and nursery habitat (completed in most states)
- Addendum VI extended the management measures under Addendum V (Delaware Bay).

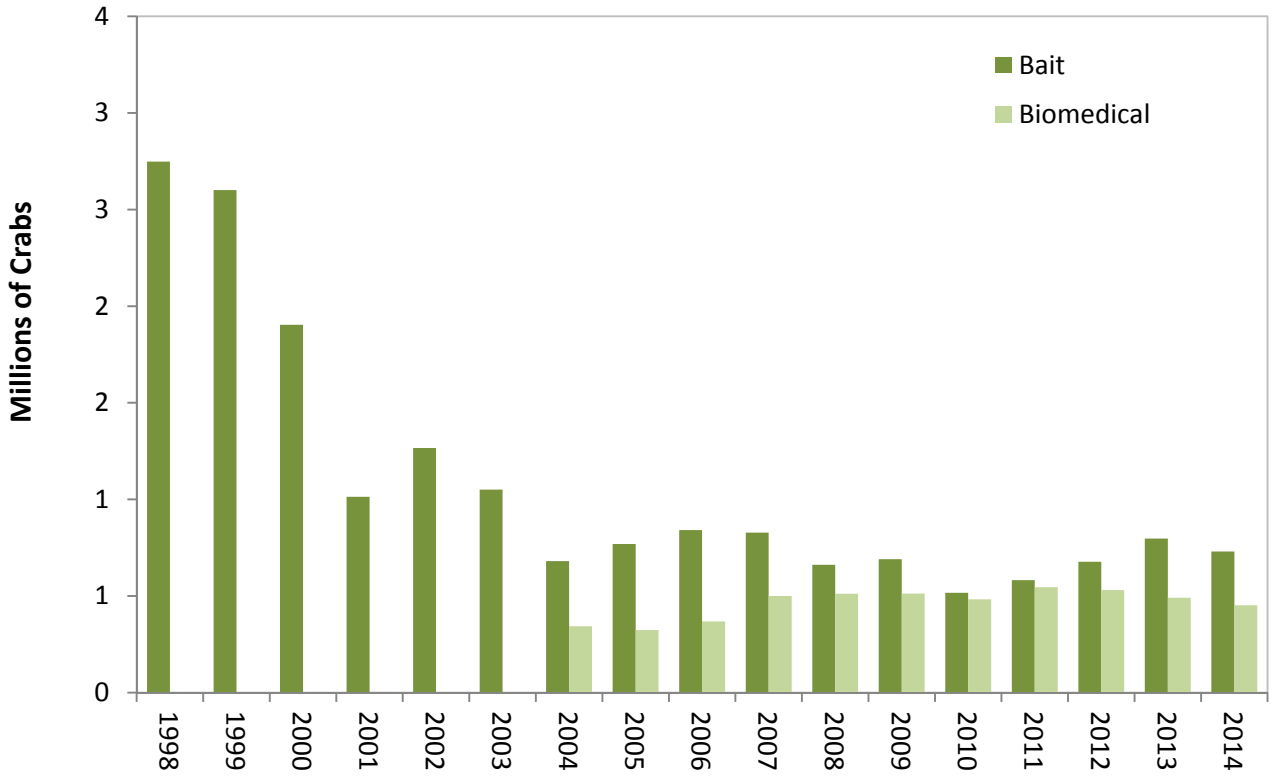
**Next Assessment:** Assessment update in 2016

**Rebuilding Trajectory:** Varies by region (see table)

## Overview of Species of Concern

### Coastwide Horseshoe Crab Bait Landings & Biomedical Harvest*

Source: ASMFC Preliminary State Reports, 2015




***Note: 2014 harvest numbers for both bait and biomedical are preliminary and do not include all state landings**

**Please note the following details regarding biomedical harvest numbers:**

- Harvest numbers include all horseshoe crabs brought to bleeding facilities, including those that were harvested as bait and counted against state quotas.
- Most of the biomedical crabs harvested are returned to the water after bleeding; a 15% mortality rate is estimated for all bled crabs.

**Timeline of Management Actions:** FMP (1999); Addendum I (2000); Addendum II (2001); Addendum III (2004); Addendum IV (2006); Addendum V (2008); Addendum VI (2010); Addendum VII (2012)

## Summer Flounder: Concern

**Assessment Findings (2015 Assessment Update)**

- Not overfished, but overfishing was occurring relative to the biological reference points (BRP) from the 2013 SAW 57 benchmark assessment (F=.359 in 2014, 16% above Fmsy=3.09).
- Spawning stock biomass (SSB) was estimated to be 40,323 mt in 2014, 65% of the target (62,394 mt)
- Recruitment over the last four years (2010-2013) were below average.
- Reported 2014 landings in the commercial fishery were approximately 8% over the commercial quota
- Coastwide recreational harvest in 2014 were approximately 6% above the recreational harvest limit

**Scientific Advice Based on Assessment Findings**

- Retrospective patterns are evident in the assessment and have substantial implications for the reliability of the model projections.
- Projections are made assuming the ABC will be harvest fully, but not exceeded. However, there are trends in harvest indication an increase likelihood of catches exceeding ABSs.
- In 2016 and 2017, the probability of overfishing is higher than the MAFMC's risk policy.

**Board Adherence to Scientific Advice**

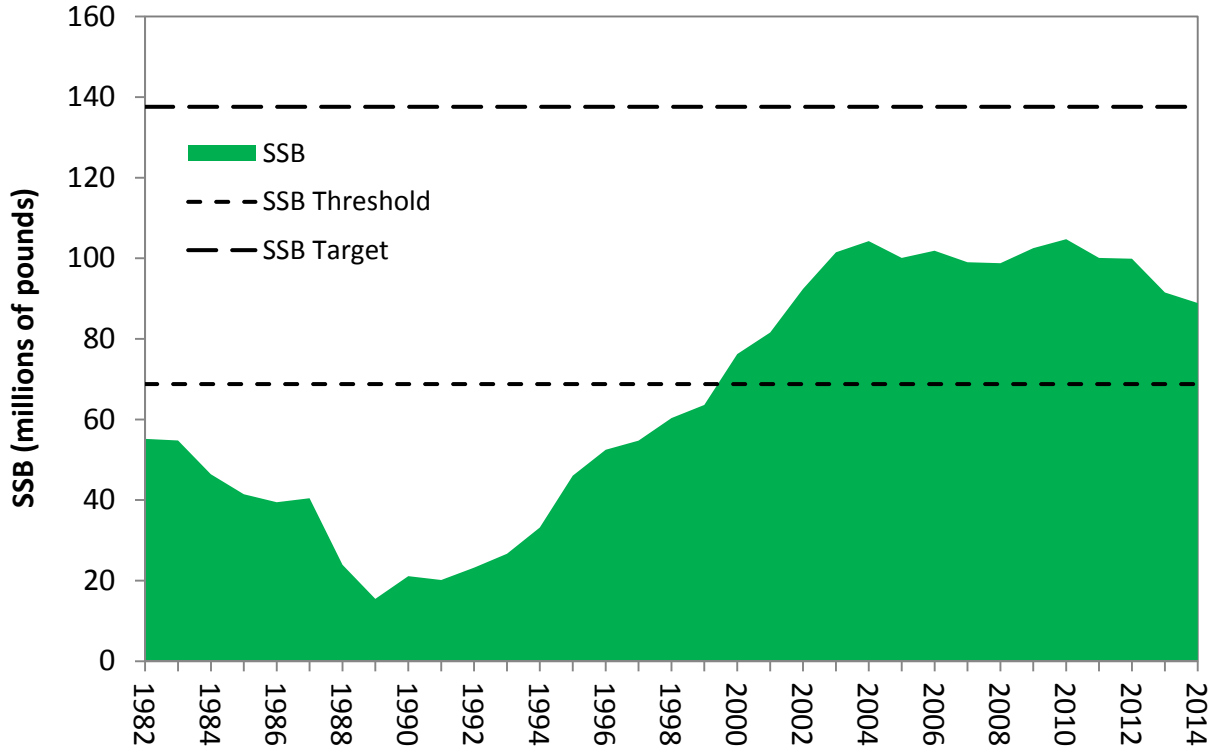
- Action will be taken at the Joint meeting with the MAFMC in August

**Next Assessment:** Not currently scheduled

**Rebuilding Trajectory:**

**Summer Flounder Spawning Stock Biomass (SSB)**

Source: Northeast Fisheries Science Center Stock Assessment Update, 2015




Timeline of Management Actions: FMP (1988); Amendment 1 (1991); Amendments 2 -5 (1993); Amendment 6 (1994); Amendment 7 (1995); Amendments 8 & 9 (1996); Amendment 10 (1997); Amendment 11 (1998); Amendment 12 (1999); Amendment 13 (2003)

# Overview of Species of Concern

## Tautog: Concern

### Assessment Findings

#### 2015 Benchmark Stock Assessment

- Overfished and overfishing is occurring on a coastwide basis
- Assessment recommends two regional approaches to assess and manage the resource (see table below for stock condition by regional stock definitions)

#### 2011 Stock Assessment Update

- SSB has remained at low levels for the last decade, with 2009 SSB estimated at 10,553 metric tons — 39% of the target SSB (26,800 metric tons).
- 2011 coastwide fishing mortality estimated at 0.38, well above the management plan's target of F=0.20
- Overfishing has occurred since 2005.

### Scientific Advice Based on Assessment Findings (2011 Assessment Update)

- Technical Committee recommended target F = 0.15 (39% reduction) or lower to rebuild stock
- Technical Committee projects the stock will exceed threshold around 2019 and will not exceed target within 15 years.

### Board Adherence to Scientific Advice

#### 2015 Benchmark Stock Assessment

- Board has initiated new amendment to consider regional stock definitions, reference points and management measures
- Board will consider approving Public Information Document for public comment in August

#### 2011 Stock Assessment Update

- Addendum VI (2011) reduced target F to 0.15 and required states to implement measures to achieve a 56% reduction in exploitation by January 1, 2012.

**Next Assessment:** None scheduled

**Rebuilding Trajectory:** Flat

| Stock Region | Stock Status | SSB Target (in MT) | SSB Threshold (in MT) | F Target | F Threshold |
|---|---|---|---|---|---|
| **Coastwide (All states)** | Overfished Experiencing Overfishing | 20,612 | 15,459 | 0.10 | 0.13 |
| **REGIONAL OPTION 1** | | | | | |
| **Massachusetts/Rhode Island/Connecticut** | Overfished Experiencing Overfishing | 3,883 | 2,912 | 0.15 | 0.20 |
| **New York – New Jersey** | Overfished Not Experiencing Overfishing | 3,570 | 2,640 | 0.17 | 0.26 |
| **Delaware/Maryland/ Virginia** | Overfished Not Experiencing Overfishing | 2,090 | 1,580 | 0.16 | 0.24 |
| **REGIONAL OPTION 2** | | | | | |
| **Massachusetts – Rhode Island** | Overfished Experiencing Overfishing | 2,633 | 1,975 | 0.16 | 0.38 |
| **Connecticut – New Jersey** | Overfished Experiencing Overfishing | 4,695 | 3521 | 0.17 | 0.24 |
| **Delaware/Maryland/ Virginia** | Overfished Not Experiencing Overfishing | 885 | 664 | 0.16 | 0.24 |

# Overview of Species of Concern

## Winter Flounder - GOM: Concern

**Overfished Unknown:** (2011 SAW 52)

- The SAW/SARC GOM analytical assessment model was not accepted, BMSY and FMSY are unknown, and consequently the F and SSB targets could not be generated.
- While the overfished status is unknown, the Review Panel is concerned that recent biomass estimates substantially decreased despite relatively low catch. Reasons for the apparent decline in biomass are not well understood.

**Overfishing not Occurring**

- A proxy F Threshold of 0.31 was derived from a length-based yield per recruit analysis. The overfishing status is based on the ratio of 2010 catch to survey based swept area estimate of biomass exceeding 30 cm in length. 2010 F estimated at 0.23

**Board Adherence to Scientific Advice**

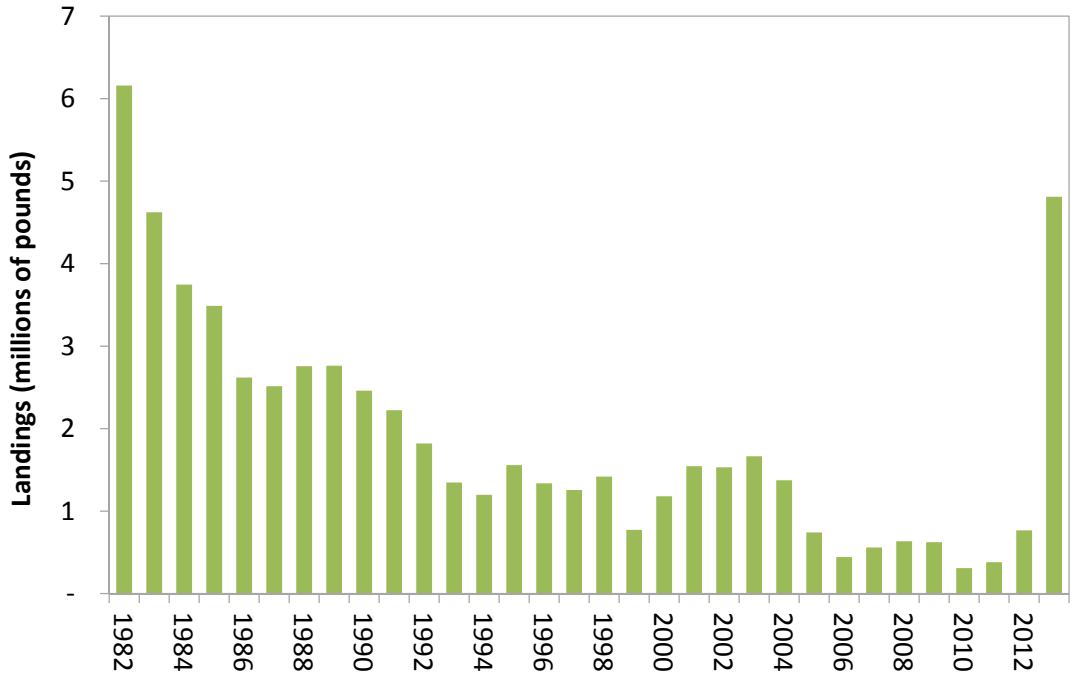
- GARM III estimated an 11% F reduction necessary to achieve $F_{MSY}$
- Addendum I measures, implemented in 2009, estimated to reduce recreational and commercial harvest by 11% and 31% respectively
- In response to the 2011 stock status, NOAA Fisheries increased the 2012 state water sub-component to 272 mt (a 450% increase of 2010's level) based on the overfishing status. Following this federal action, the Commission's Winter Flounder Board approved Addendum II in October 2012 to increase the maximum possession limit for non-federally permitted commercial vessels to 500 pounds.
- In 2014, NMFS maintained the state water sub-component at 272 mt. The Commission's Board also maintained the same management measures as 2013 for the 2014 fishing season.

**Next Assessment:** Assessment update September 2015

**Rebuilding Trajectory:** Status unknown

**Gulf of Maine Winter Flounder Commercial Landings**

Source: Northeast Fisheries Science Center, 2014




Timeline of Management Actions: FMP & Addendum I (1992); Addendum II (1998); Amendment 1 (2005); Addendum I (2009); Addendum II (2012); Addendum III (2013)

# Overview of Depleted Species

## American Eel: Depleted

**Depleted:** Trend analyses and model results indicate the American eel stock has declined in recent decades and the prevalence of significant downward trends in multiple surveys across the coast is cause for concern (2012 Benchmark Assessment).

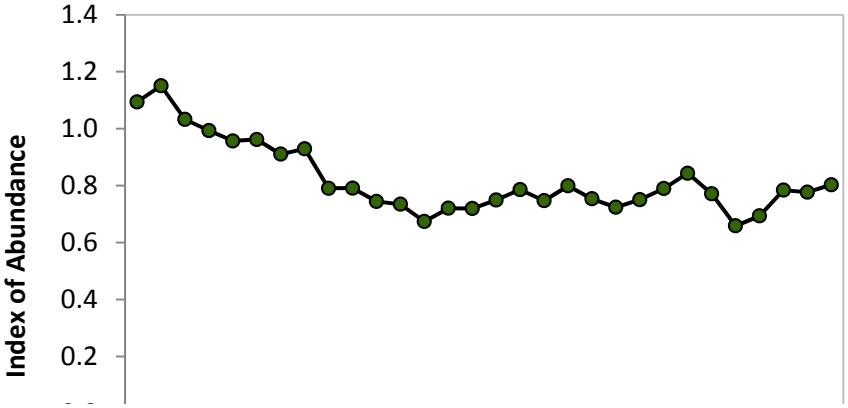
**Overfishing Determination:** No overfishing determination can be made at this time.

### Assessment Findings

- In recent decades there has been neutral or declining coastwide abundance.
- Decreasing trends in yellow eels were seen in the Hudson River and South Atlantic regions
- Although commercial fishery landings and effort in recent times have declined in most regions (with the possible exception of the glass eel fishery), current levels of fishing effort may still be too high given the additional stressors affecting the stock such as habitat loss, passage mortality, and disease as well as potentially shifting oceanographic conditions.
- Management efforts to reduce mortality on American eels in the U.S. are warranted.

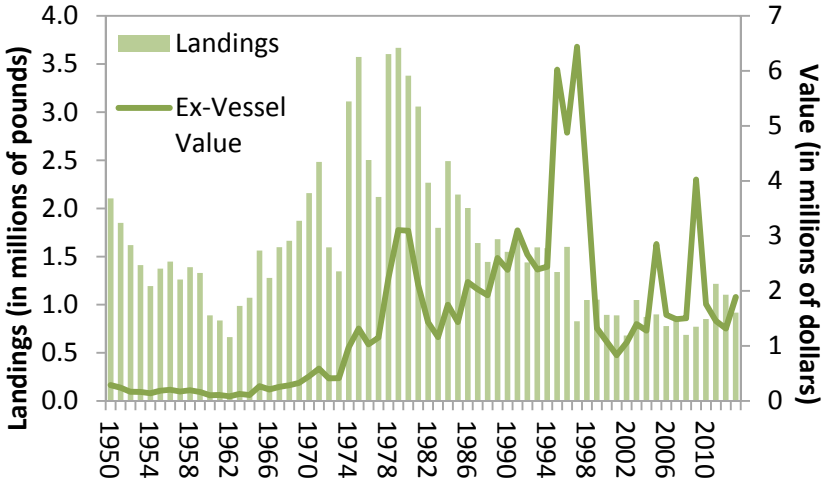
**30-Year Index of Abundance for Yellow-phase American Eels along the Atlantic Coast**

Source: 2012 American Eel Benchmark Stock Assessment Report




**Commercial Landings and Value**

Source: 2012 American Eel Benchmark Stock Assessment Report & Personal comm. NMFS Fisheries Statistics Division, 2014




### Board Adherence to Scientific Advice

- Based on results of the 2012 benchmark stock assessment the Board has implemented two Addenda to reduce fishing mortality on American eels.
- Addendum III (2013) increased the commercial and recreational minimum size to 9 inches, reduced the recreational bag limit from 50 fish/day/angler to 25 fish/day/angler, prohibited most silver eel fisheries, and places restrictions on the growth of pigmented eel fisheries.
- Addendum IV (2014) establishes a 907,671 pound coastwide quota for yellow eel fisheries, reduces Maine's glass eel quota to 9,688 pounds (2014 landings), and allows for the continuation of New York's silver eel weir fishery in the DE River. Management triggers exist for yellow eel state quotas if necessary.

**Next Assessment:** None scheduled

**Rebuilding Trajectory:** Unknown

## Overview of Depleted Species

## American Lobster - SNE: Depleted

### Assessment Findings (2015 Benchmark Stock Assessment)

- Depleted and overfishing not occurring:
- Abundance at 42% of threshold
- Current exploitation (0.27) below threshold (0.41)
- Basecase estimates for recruitment are near zero and the lowest on record
- The inshore portion of the stock shows a dramatic decline in spawning stock abundance
- The stock has not rebuilt and is in recruitment failure

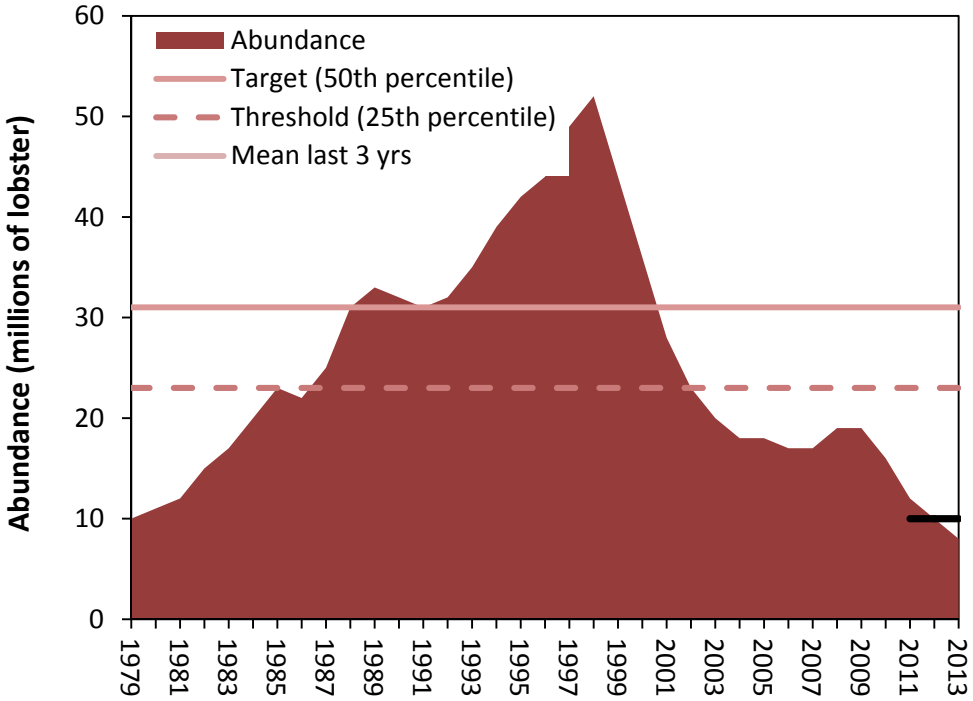
### Board Adherence to Scientific Advice

- TC advised to use output controls, Board continues to use input measures
- TC advised to not allow conservation equivalency in LCMA 6, Board approved program
- TC advised 100% trip level harvester reporting; Board adopted 10%
- TC advised 50-75% reductions in SNE LCMAs; Board approved 10% reduction.

**Rebuilding Trajectory:** Population continues to decline; Addendum XI (May 07) established a 15-year rebuilding timeline (ending in 2022) with a provision to end overfishing immediately.

**Southern New England Lobster Abundance**

Source: American Lobster Benchmark Stock Assessment, 2015




Timeline of Management Actions: Amendment 3 (‘97); Addendum I (‘99); Addendum II (‘01); Addendum III (‘02); Addenda IV & V (‘04); Addenda VI & VII (‘05); Addenda X & XI (‘07); Addendum XIII (‘08); Addendum XIV (‘09); Addendum XV (‘09); Addendum XVI (‘10); Addendum XVII (‘11); Addendum XVIII (’12); Addenda XIX – XXIII (’13); Addendum XXIII (’14); Addendum XXIV (’15)

# Overview of Depleted Species

## American Shad: Depleted

### 2007 Assessment Findings

- 86 river systems assessed; 64% of which have unknown stock status
- Collectively, stocks are at all-time lows and do not appear to be recovering

### Scientific Advice Based on Assessment Findings

- Improved monitoring (fishery independent and dependent) and fish passage
- Management measures based on total mortality (Z), which combines fishing and natural mortality.
- Lower JAI threshold needed to trigger management action
- The next assessment has not been scheduled.

**Trends in Stock Status of American Shad Populations**

Trends based on a comparison of 2007 assessment results to 1998 assessment results. Sources: ASMFC American Shad Stock Assessment Reports for 2007 and 1998

| State | River | Trend |
|---|---|---|
| ME | Saco and Kennebec | Declining |
| NH | Exeter | Declining |
| MA | Merrimack | Low, Stable |
| RI | Pawcatuck | Declining |
| CT/MA | Connecticut | Stable |
| NY | Hudson | Declining |
| NY/PA/NJ/DE | Delaware River and Bay | Low, Stable |
| PA | Susquehanna | Declining |
| DC/MD/VA | Potomac | Increasing |
| MD | Nanticoke | Low |
| VA | York | Increasing |
| | James | Declining |
| | Rappahannock | Stable |
| SC | Santee | Increasing |
| | Edisto | Declining |
| GA | Altamaha | Declining |
| FL | St. Johns | Declining |

### Board Adherence to Scientific Advice

- Management Board approved Amendment 3 in February 2010
- Management actions contained in the Amendment are based on recommendations from the stock assessment.
- Member states/jurisdictions were required to submit sustainable fishery management plans (SFMPs) by August 1, 2012 (for TC review and Board approval). As of January 1, 2013, the Shad and River Herring Management Board approved SFMPs for Massachusetts, Connecticut, the Delaware River, the Potomac River, North Carolina, South Carolina, Georgia, and Florida. States/jurisdictions without approved SFMPs by January 1, 2013 were required to close their American shad fisheries, with the exception of catch and release recreational fisheries.
- By August 1, 2013, states/jurisdictions were required to submit a Habitat Plan, which contains a summary of current and historical spawning and nursery habitat; the most significant threats to those habitats; and a habitat restoration program to improve, enhance and/or restore habitat quality and quantity. In February 2014, the Board approved habitat plans for the majority of states and jurisdictions.

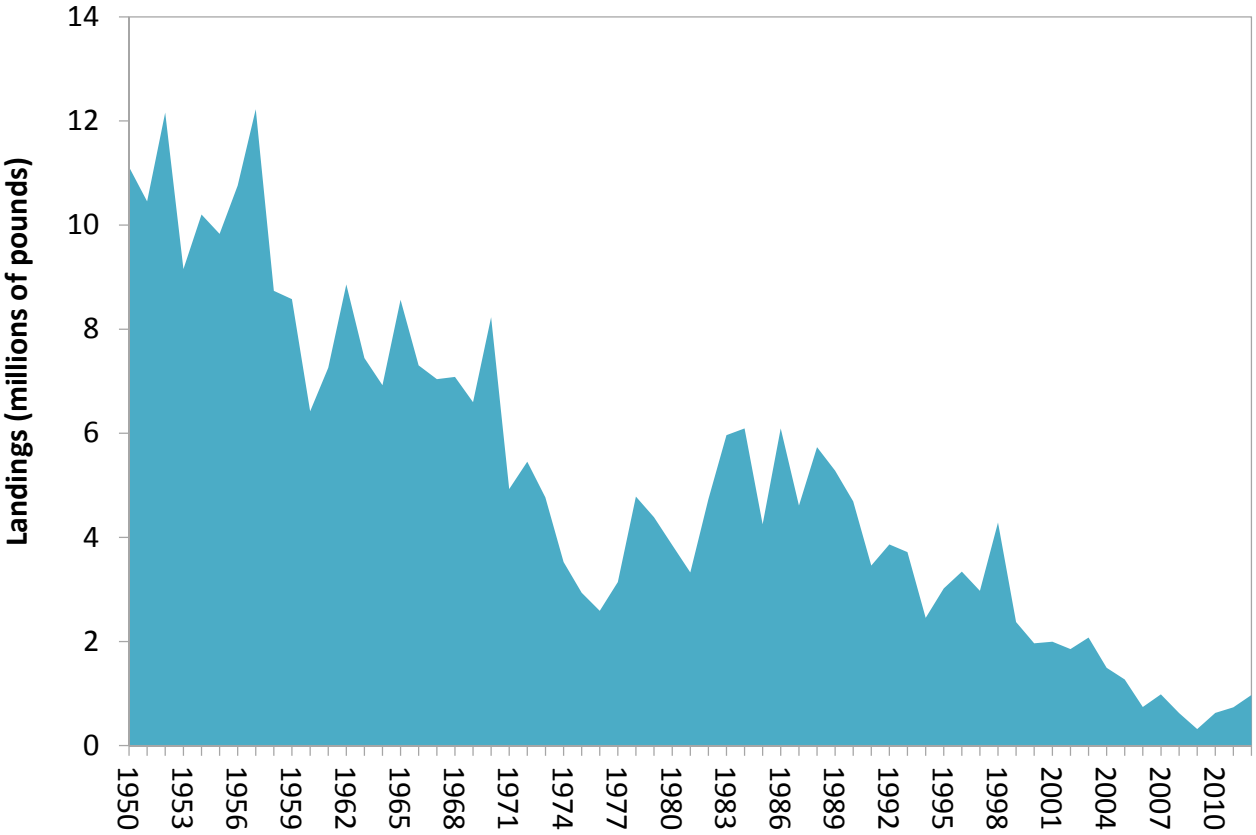
**Next Assessment:** Assessment update in 2017

**Rebuilding Trajectory:** Variable by River System (see accompanying table)

## Overview of Depleted Species

**American Shad Commercial Landings**

Source: NMFS Fisheries Statistics Division, 2014




**Timeline of Management Actions:** FMP (1985); Amendment 1 (1999); Amendment 3 (2010)

## Overview of Depleted Species

## Northern Shrimp: Depleted

### Assessment Findings (2014 Benchmark Stock Assessment)

- Due to uncertainties in the stock assessment model, the 2014 benchmark assessment was not accepted by the peer review panel for management use and the Northern Shrimp Technical Committee (TC) used a suite of indicators to determine the status of the stock.
- Using these indices, the TC found the northern shrimp stock is collapsed and abundance and biomass indices for 2012-2014 were the lowest on record in the 31-year time series (figures below).
- Due to failed recruitment, the northern shrimp stock is not expected to recover until at least 2017 as the 2013 year class makes

### Scientific Advice Based on Assessment Findings

Due to recruitment failure, a collapsed stock, and long term trends in environmental conditions, the Technical Committee recommended the Section implement a moratorium on fishing in 2015.

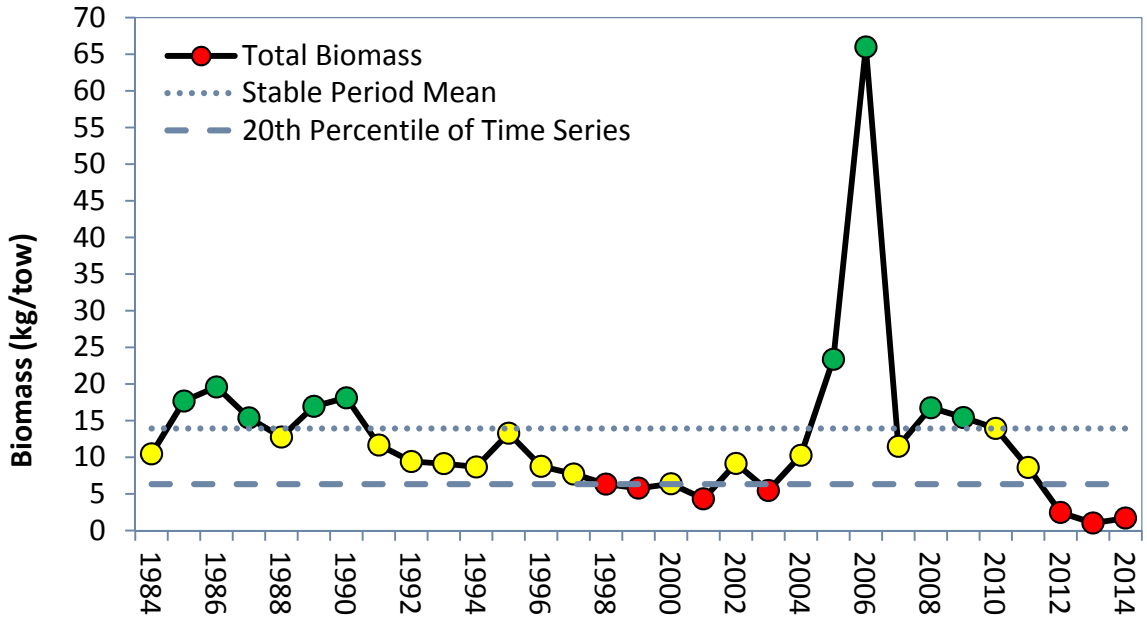
### Board Adherence to Scientific Advice

- Adhering to the Technical Committee's recommendations, the Northern Shrimp Section implemented a fishery moratorium for both the 2014 and 2015 fishing season.
- Due to recent failed recruitment and collapse of the stock, in 2014, the Section initiated development of Amendment 3 to the Interstate Fishery Management Plan. The amendment explores a limited entry program to reduce fishing effort and stabilize the fishery.t

**Next Assessment:** 2015 Assessment Update **Rebuilding Trajectory:** Declining

**Total Biomass of Northern Shrimp from the Gulf of Maine Summer Shrimp Survey**

Stock Status Report for Gulf of Maine Northern Shrimp, 2014




The graph represents the annual biomass index relative to the reference period (dashed line) and to the 20th percentile of the time series (dotted line). The reference period (1985-1994) is the time period during which the fishery experienced stable landings and value. Green dots are values that are equal to or above the stable period mean (SPM); red dots are values that are equal to or below the 20th percentile of the time series; yellow dots are values between the SPM and the 20th percentile.

# Overview of Depleted Species

## Strict Traffic Light Approach (STLA) Results

Red indicates unfavorable conditions or status, yellow indicates intermediate values, and green indicates favorable conditions or status.


**Timeline of Management Actions:** FMP (1986); Amendment 1 (2004); Amendment 2 (2011); Addendum I (2012)

# Overview of Depleted Species

## River Herring: Depleted

**Depleted:** The coastwide meta-complex of river herring stocks on the US Atlantic coast is depleted to near historic lows (2012 Benchmark Assessment).

**Overfishing Determination:** No overfishing determination can be made at this time.

### Assessment Findings

- Of the 52 stocks of alewife and blueback herring for which data were available, 23 were depleted relative to historic levels, one stock was increasing, and the status of 28 stocks could not be determined because the time-series of available data was too short.
- 14 out of 15 river specific YOY indices showed no (7 rivers) or declining (7 rivers) trends.
- Mean length, maximum age and mean length-at-age for both species have declined.
- Recent domestic landings totaled <2 million pounds in any given year.
- Commercial landings by domestic and foreign fleets peaked at 140 million pounds in 1969.
- The "depleted" determination was used instead of "overfished" and "overfishing" because of the many factors have contributed to the declining abundance of river herring including habitat loss, predation, and climate changes

### Board Adherence to Scientific Advice

- In 2009, the Board approved Amendment 2, in response to concern for river herring stocks.
- The Amendment prohibits state waters commercial and recreational fisheries beginning January 1, 2012, unless a state or jurisdiction has a sustainable management plan reviewed by the Technical Committee and approved by the Management Board.
- Amendment 2 required states to implement fisheries-dependent and independent monitoring programs, and contains recommendations to conserve, restore, and protect critical river herring habitat.
- As of January 1, 2012, the Shad and River Herring Management Board approved sustainable fishery management plans for Maine, New Hampshire, New York, North Carolina and South Carolina.

**Status of Select Alewife and Blueback Herring Stocks along the Atlantic Coast**

Source: 2012 River Herring Benchmark Stock Assessment Report

| State | River** | Status Relative to Historic Levels / Recent Trends* |
|---|---|---|
| ME | Damariscotta | Depleted[A], Stable[A] |
| | Union | Increasing[A] , Stable[A] |
| NH | Cocheco | Unknown[A,B], Stable[A,B] |
| | Exeter | Depleted[A], Unknown[A] |
| | Lamprey | Depleted[A], Increasing[A] |
| | Oyster | Depleted[B], Stable[B] |
| | Taylor | Depleted[B], Decreasing[B] |
| | Winnicut | Depleted[A,B], Unknown[A,B] |
| MA | Mattapoisett | Depleted[A], Unknown[A] |
| | Monument | Depleted[A], Unknown[A] |
| | Parker | Depleted[A], Unknown[A] |
| | Stony Brook | Depleted[A], Unknown[A] |
| RI | Buckeye | Depleted[A], Unknown[A] |
| | Gilbert | Depleted[A], Decreasing[A] |
| | Nonquit | Depleted[A], Decreasing[A] |
| CT | Connecticut | Depleted[B], Decreasing[B] |
| NY | Hudson | Depleted[A,B], Stable[A.B] |
| MD, DE | Nanticoke | Depleted[A,B], Decreasing[A,B] |
| VA, MD, DC | Potomac | Depleted[A,B], Unknown[A,B] |
| NC | Chowan | Depleted[A,B], Stable[A.B] |
| SC | Santee-Cooper | Depleted[B], Increasing[B] |

A = Alewife, B = Blueback Herring

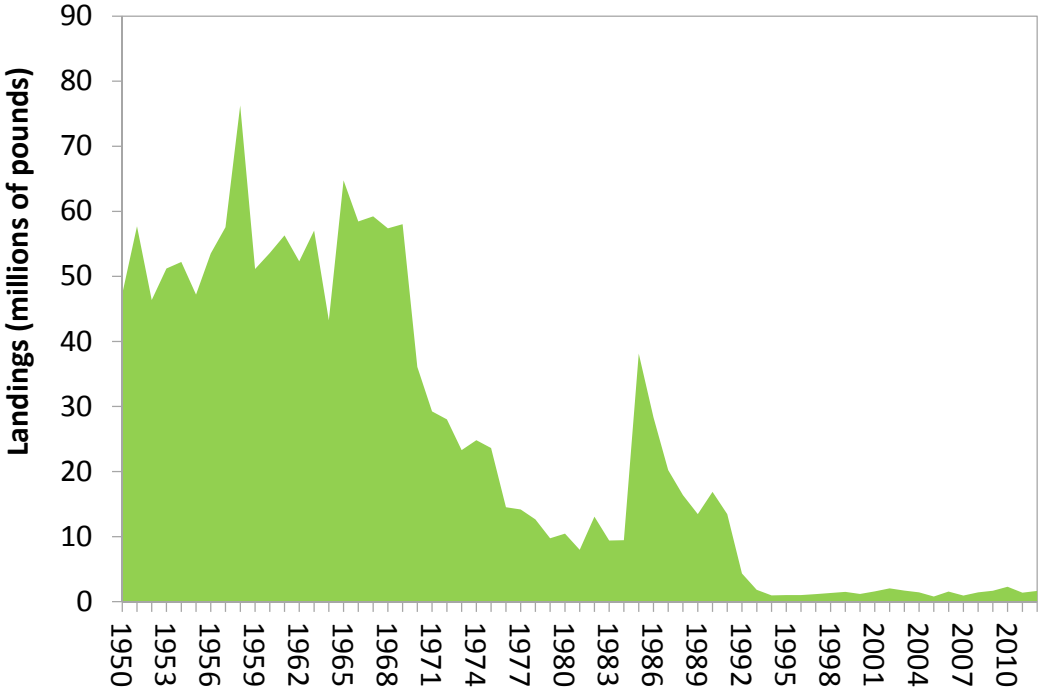
Status relative to historic levels is pre-1970. Recent trends reflect last ten years of data.

**Next Assessment:** Assessment update in 2018

**Rebuilding Trajectory:** Unknown

**River Herring Commercial Landings**

Source: NMFS Fisheries Statistics Division, 2014




Timeline of Management Actions: FMP ('85); Amendment 1 ('95); Amendment 2 – River Herring ('09); Amendment 3 – American Shad ('10)

# Overview of Depleted Species

## Weakfish: Depleted

**Depleted:** Spawning potential at 10% of target (2009 benchmark assessment, SARC)

**Overfishing Not Occurring:** While fishing mortality (F) fell below $F_{MSY}$ in 1996, recent fishery removals are considered to be unsustainable due to high natural mortality (M)

### Assessment Findings

- Age 1+ weakfish biomass at an all-time low of 10.8 million pounds in 2008, putting the resources at 3% of an unfished stock.
- While the fishing mortality rate has been modest and stable during the period of biomass decline, natural mortality has risen substantially since 1995. Potential factors include predation, competition, and changes in the environment.

### Board Adherence to Scientific Advice

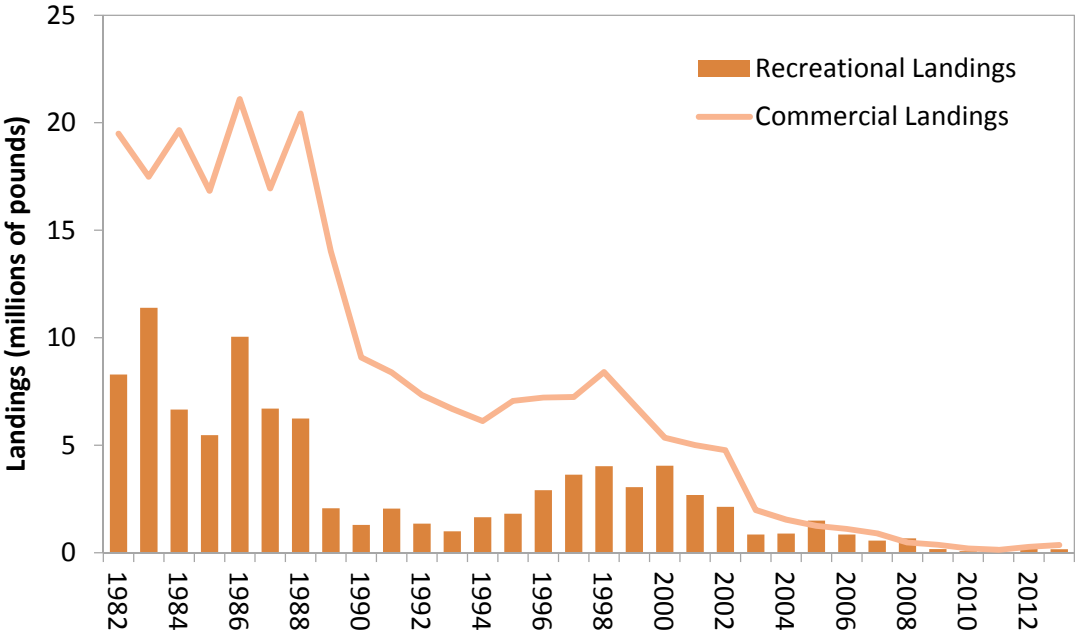
- Based on results of the 2009 stock assessment and peer review, the Board approved Addendum IV, which 1) revised the biological reference points; 2) implemented a commercial trip limit, and 3) reduced the recreational bag limit, the commercial bycatch limit, and the finfish trawl fishery's allowance for undersized fish.
- The Board will annually assess stock status indicators (e.g., relative F, juvenile indices) to monitor weakfish population changes until the next benchmark assessment.

**Next Assessment: Benchmark:** 2015

**Rebuilding Trajectory:** Declining

**Weakfish Recreational and Commercial Landings**

Source: NMFS Fisheries Statistics Division, 2014




Timeline of Management Actions: FMP ('85); Amendment 1 ('91); Amendment 2 ('95); Amendment 3 ('96); Amendment 4 ('02); Addendum I ('05); Addenda II & III ('07); Addendum IV ('09)

# Overview of Depleted Species

## Winter Flounder - SNE/MA: Depleted

**Overfished:** Stock is at 16% of SSB target (based on 2011 SAW/SARC 52)

**Overfishing is Not Occurring:** 2010 F = 0.051 well below F target (0.217)

**Board Adherence to Scientific Advice**

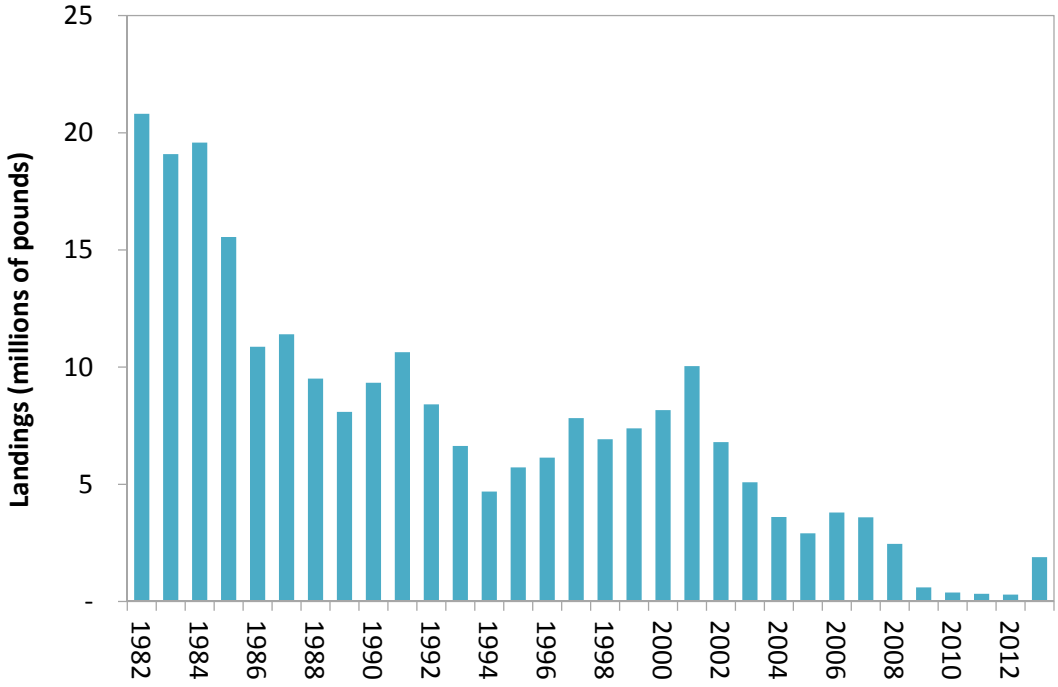
- GARM III estimated a 100% F reduction to achieve $F_{REBUILD}$
- Following the TC advice, the Board approved Addendum I in May 2009, establishing small possession limits to discourage directed fishery and prevent increases in dead discards. Following the TC advice, the Board maintained a 50-pound trip limit for non-federally permitted commercial vessels when it set the 2013 specifications.
- In 2014, NOAA Fisheries extended the rebuilding timeline for this stock and allowed for increased fishing opportunities. The Board extended the recreational season from March 1 through December 31 to increase fishing opportunities based on species' availability.
- NOAA Fisheries set a new rebuilding target of 2023 for SNE/MA winter flounder and lifted the fishing moratorium implemented in 2009. For 2013, NOAA Fisheries set the state water sub-component at 235 mt and a total stock-wide annual catch limit of 1,612 mt (a 167% increase from 2012's 603 mt). The Commission's Winter Flounder TC advises that an average annual stock increase of 15% is necessary to rebuild by 2023.

**Next Assessment:** Assessment Update September 2015

**Rebuilding Trajectory:** Flat but projected to be increasing in 2015

**SNE/MA Winter Flounder Commercial Landings**

Northeast Fisheries Science Center, 2014




**Timeline of Management Actions:** FMP & Addendum I (1992); Addendum II (1998); Amendment 1 (2005); Addendum I (2009); Addendum II (2012); Addendum III (2013)

# Overview of Species of Unknown Stock Status

## Atlantic Sturgeon: Unknown

### Available Information

- Current populations throughout the species' range are at low levels of abundance.
- The Hudson River stock may be showing a small increase in abundance, along with some rivers in Georgia and South Carolina, suggesting some population rebuilding.
- Commercial landings of Atlantic sturgeon peaked in 1890 at 7.5 million pounds.
- Effective April 6, 2012, NMFS listed five distinct population segments (DPS) of Atlantic sturgeon under the Endangered Species Act (Gulf of Maine DPS as threatened and the New York Bight, Chesapeake Bay, Carolina and South Atlantic DPS' as endangered)
- The states have been working with NOAA Fisheries on their Section 10 incidental take permits
- An Atlantic sturgeon bycatch reduction workshop was conducted in January 2013 to discuss technological solutions for reducing bycatch of Atlantic sturgeon and sea turtles.
- NOAA Fisheries released a draft biological opinion that found the continued operation of 7 Northeast federal fisheries does not jeopardize the survival or recovery of Atlantic sturgeon.

### Needed Information/Data

- Conduct assessments of population abundance and age structure in various river systems
- Clearly define unit stocks of Atlantic sturgeon
- Improve bycatch and ship strike estimates.
- Further quantify critical habitat

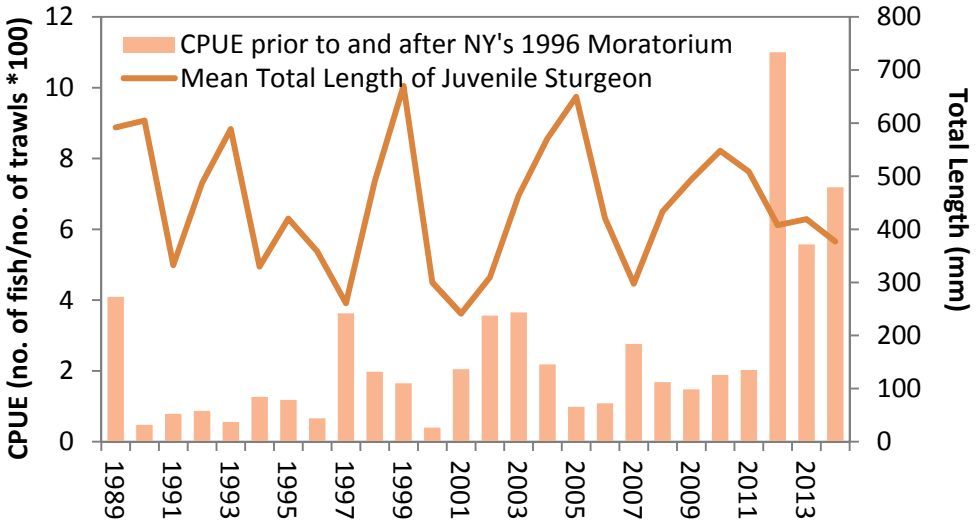
### Monitoring and Management Measures

- Monitoring: States must report annually on Atlantic sturgeon bycatch, fisheries-independent monitoring, habitat status and authorized aquaculture operations.
- Management: Coastwide moratorium until 2038.

**Next Assessment:** 2017 benchmark assessment

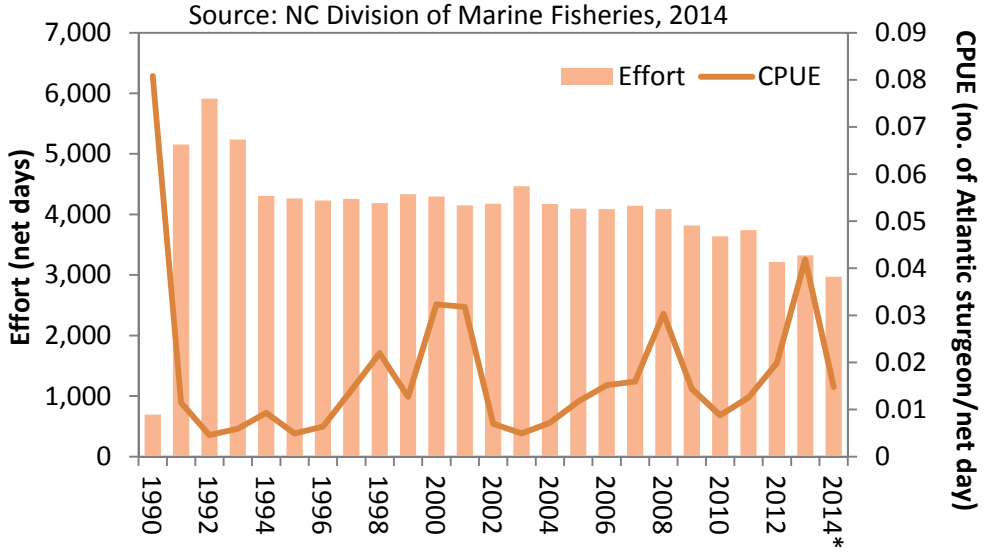
**CPUE of Hudson River Juvenile Atlantic Sturgeon**

Source: Source: NYSDEC with data from Hudson River Power Generating Companies Hudson River Monitoring Program, 2014



**Fishery-independent Catch Rates of Juvenile Atlantic Sturgeon in Albermarle Sound**

Source: NC Division of Marine Fisheries, 2014




**Timeline of Management Actions:** FMP (1990); Amendment 1 (1998); Addendum I (2001); Addendum II (2005); Addendum III (2006)

## Overview of Species of Unknown Stock Status

## Jonah Crab: Unknown

### Available Information

- Jonah crab landings have increased 6.48 fold since the early 2000's, with over 17 million pounds of crab landed in 2014.
- The status of the Jonah crab resource is relatively unknown and there is currently no data on juvenile recruitment.
- Bottom trawl surveys conducted by the MA Division of Marine Fisheries found Jonah crab are frequently caught north, rather than south, of Cape Cod.
- The Northeast Fisheries Science Center 2014 surveys showed record high abundance in Georges Bank and Gulf of Maine regions. The spring survey in Southern New England has been fairly stable.

### Needed Information/Data

- Conduct age-at-maturity studies in U.S. waters.
- Investigate the extent and motivation of annual migrations patterns.
- Research the recruitment of juvenile Jonah crabs into the fishery.
- Determine the extent of sampling as well as the size distribution, sex composition, and ovigerous condition of Jonah crabs.

### Management and Monitoring Measures

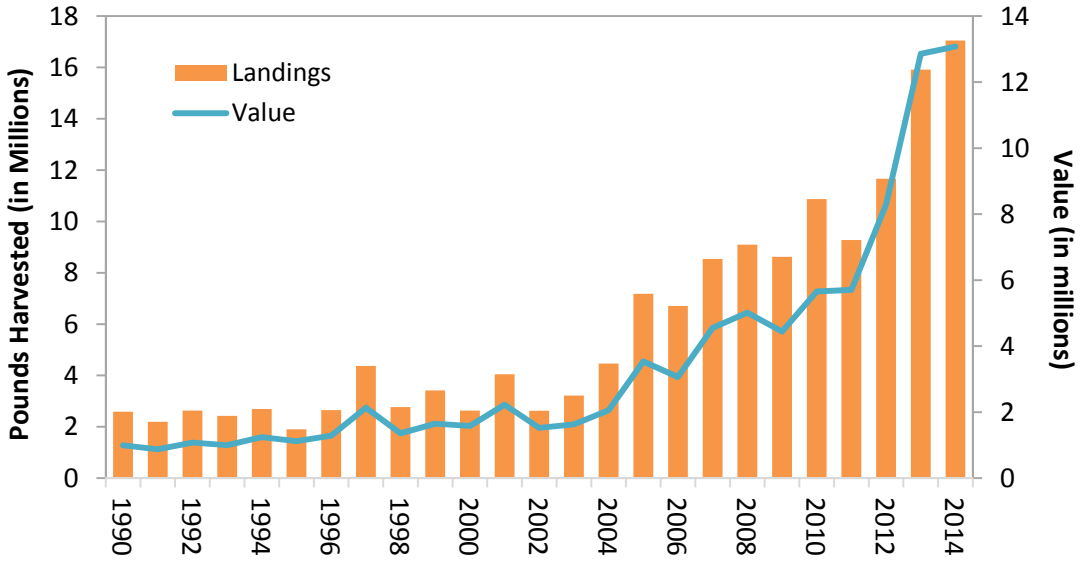
- Following recommendations of the Jonah Crab Fishery Improvement Project, which highlighted the need for management measures in the fishery, the Board tasked the Plan Review Team with developing a Draft FMP for Jonah crab in October 2014.
- In May 2015, the Board approved the Draft FMP for Jonah Crab for public comment. Options include commercial and recreational management measures (commercial minimum size, recreational possession limit, allow for whole or parts, bycatch provisions).
- The Board will consider approval of the Final FMP in August.

### Next Assessment

No assessment is currently scheduled for Jonah crab due to a lack of data.

**Landings and Value of Jonah Crab**

Source: NMFS Fisheries Statistics Division, 2014



# Overview of Species of Unknown Stock Status

## Spot: Unknown

### Unfavorable Data Trends

- Coastwide commercial landings have declined since 1950; with a high of 14.52 million pounds landed in 1952 and a low of 1.27 million pounds in 2012.
- Recreational catches between 1981 and 2014 are variable but show a slight decline.
- Commercial catch-at-age data, which showed an expansion of the age structure in the early 2000s, has contracted the last several years.
- Length-at-age and weight-at-age have decreased for ages 1-3 from 2009-2012 for both measures.
- Recruitment indices show great inter-annual variability as expected, but those with longer time series exhibit a decline in the magnitude of peaks over time with poor recruitment in 2009 and 2011.
- Most indices of adult spot abundance in the species core area exhibit high inter-annual variability.

A stock assessment has not been completed; ability to conduct a defensible assessment has been hindered by inadequate discard data, particularly in the South Atlantic shrimp trawl fishery.

### Board Adherence to Scientific Advice

- The Management Board followed recommendations from the Plan Review Team to monitor the stock with available data the last four years, evaluate data availability and adequacy for a stock assessment, and conduct a life history workshop.
- In 2014, the Plan Review Team recommended spot for a stock assessment, which was subsequently scheduled for 2016.
- TLA analysis of the 2014 fishing year showed a decline in harvest, primarily driven by a fall in commercial landings. Adult abundance also fell and was above the 30% threshold at 43.5%. Management measures were not tripped since the harvest index was just below the threshold at 29.4%.

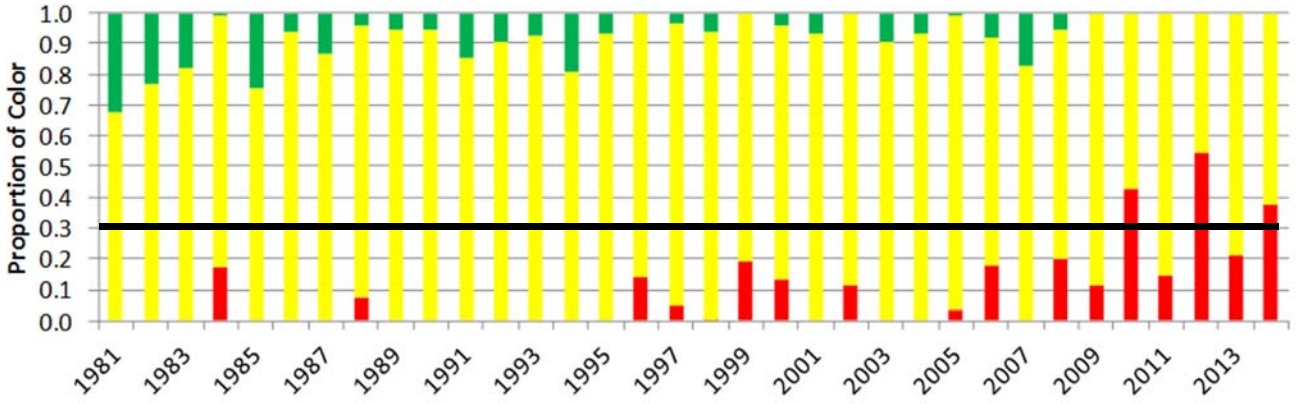
### Monitoring and Management Measures

- Omnibus Amendment, approved in 2011, updated the spot FMP by adding management triggers to annually monitor the stock status of spot until a coastwide stock assessment is completed. The Amendment also sought to increase the level of research and monitoring on spot bycatch.
- Addendum II (2014) established the Traffic Light Approach as the new management framework to evaluate trends in the fishery. When harvest and abundance thresholds are exceeded for two years, management actions are developed.

**Next Assessment:** 2016

**Traffic Light Analysis of Spot Commercial and Recreational Harvest**

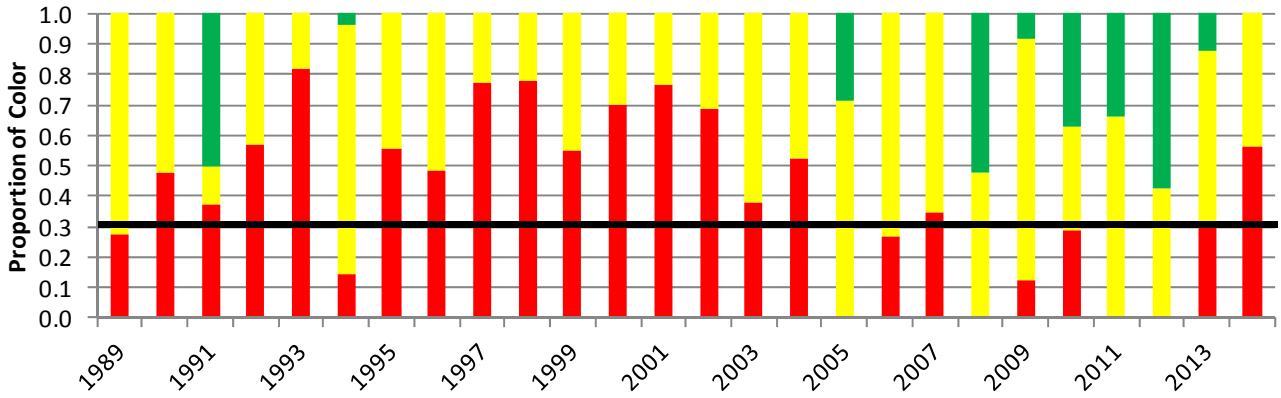
Solid line represents 30% threshold.



# Overview of Species of Unknown Stock Status

**Traffic Light Analysis of Spot Fishery-independent Survey Indices**

Solid line represents 30% threshold.




Management response is triggered when proportion of red exceeds the 30% threshold level (black line) for two consecutive years in both fishery characteristics (landings and fishery-independent survey indices).

Timeline of Management Actions: FMP ('87); Omnibus Amendment ('11); Addendum I ('14)

## Spotted Seatrout: Unknown

### Available Information

- Commercial landings have decreased from 1960 to 2012
- Recreational catches have increased from 1981 to 2013; however, the number of releases has also increased and harvest has remained stable.
- State stock assessments
    - NC (including VA): stock assessment covering 1991-2008 indicated SPR below 20% in recent years
    - SC: SPR just above 20% goal in 1992; non-peer reviewed assessment through 2004 indicated SPR below 20% goal
    - GA: SPR below 20% goal in 1995
    - FL: SPR = 67% northeast region, 45% southeast regions during 2007-2009; goal of 35% SPR

### Needed Information/Data

- Examine the stock structure of spotted seatrout on a regional basis, with an emphasis on tagging techniques
- Collect data on the size or age of spotted seatrout released alive by anglers and the size and age of commercial discards
- Develop state-specific juvenile abundance indices and fecundity estimates

### Monitoring and Management

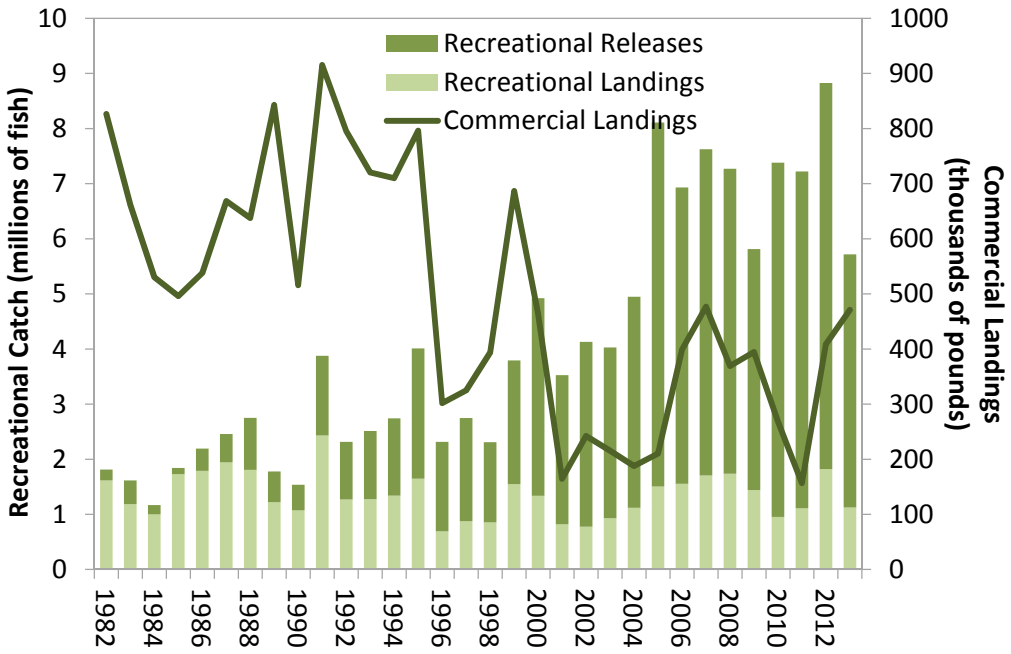
- Amendment I sets the objective of the FMP to achieve 20% spawning potential to minimize the possibility of recruitment failure. Florida has established a 35% SPR.
- The Omnibus Amendment, approved in 2011, updated the Spotted Seatrout FMP to include at 12” TL minimum size and recommended measures to protect the spawning stock.

**Next Assessment:** No coastwide assessment planned or recommended by PRT due to the non-migratory nature of the species and the lack of available data.

**Timeline of Management Actions:** FMP (1985); Amendment 1 (1991); Omnibus Amendment (2011)

**Spotted Seatrout Recreational Catch & Commercial Landings**

Source: NMFS Fisheries Statistics Division, 2014



# DRAFT PROCEEDINGS OF THE

# ATLANTIC STATES MARINE FISHERIES COMMISSION

# SOUTH ATLANTIC STATE/FEDERAL FISHERIES MANAGEMENT BOARD

**The Westin Alexandria**
Alexandria, Virginia
May 5, 2015

**These minutes are draft and subject to approval by the South Atlantic State/Federal Fisheries Management Board. The Board will review the minutes during its next meeting.**

**Draft Proceedings of the South Atlantic State/Federal Fisheries Management Board Meeting**
**May 2015**

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## INDEX OF MOTIONS

**Draft Proceedings of the South Atlantic State/Federal Fisheries Management Board Meeting**
**May 2015**

## ATTENDANCE

### Board Members

Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Russ Allen, NJ, proxy for D. Chanda (AA)
John Clark, DE, proxy for D. Saveikis (AA)
Roy Miller, DE (GA)
Craig Pugh, DE, proxy for Rep. Carson (LA)
Del. Dana Stein, DE (LA)
Tom O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
Joe Grist, VA, proxy for J. Bull (AA)
Kyle Schick, VA, proxy for Sen. Stuart (LA)
Louis Daniel, NC (AA)
Ross Self, SC, proxy for R. Boyles (AA)
Nancy Addison, GA (GA)
Patrick Geer, GA, proxy for Rep. Burns (LA)
Spud Woodward, GA (AA)
Jim Estes, FL, proxy for J. McCawley (AA)
Martin Gary, PRFC
Wilson Laney, USFWS
Steve Meyers, NMFS

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

### Ex-Officio Members

### Staff

Bob Beal
Kirby Rootes-Murdy
Megan Ware
Toni Kerns
Tina Berger
Mike Waine

### Guests

Loren Lustig, PA (GA)
Michelle Duval, NC DMF
Jack Travelstead, CCA
Heather Blough, NOAA

**These minutes are draft and subject to approval by the South Atlantic State/Federal Fisheries Management Board. The Board will review the minutes during its next meeting.**

**Draft Proceedings of the South Atlantic State/Federal Fisheries Management Board Meeting**
**May 2015**

The South Atlantic State/Federal Fisheries Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 5, 2015, and was called to order at 12:15 o'clock p.m. by Chairman Patrick Geer.

## CALL TO ORDER

CHAIRMAN PATRICK GEER: We're going to get started. My name is Pat Geer and I'm the Chairman of the South Atlantic Board. I'm going to change the agenda quite a bit today to deal with time restrictions.

## REPORT FROM THE NOAA SOUTHEAST REGIONAL OFFICE ON DRAFT STRATEGIC PLAN FOR FY2016–2020

CHAIRMAN PATRICK GEER: This meeting is mostly just going to be an informative meeting. We have Heather Blough with us today, who is with the Southeast Regional Office. She wants to talk us about NOAA's Strategic Plan for 2016 through 2020.

MS. HEATHER BLOUGH: As noted, we just recently developed a Draft Strategic Plan to cover the next five years beginning in Fiscal Year 2016. I believe each of you received a copy of the complete draft plan in your briefing books. We're requesting comments and input on the plan through mid-July.

I appreciate this opportunity just to review our strategic goals at a very high level and try to address any questions you may have so that you can provide input for us to consider as we finalize the plan late this summer. As the federal budgets have declined or flattened out over the last several years, our leadership has directed us to focus our efforts on two core mandates.

The first is the productivity and sustainability of fisheries and fishing communities. The second is the recovery and conservation of protected resources. This planning exercise that we're undertaking is just one component of a larger national effort that is designed to ensure all of the agency's programs and activities are effectively aligned with those two core mandates and also to ensure that our decision-making and prioritization processes are more open and transparent to the public.

Because we work with our regional fishery management councils to identify fishery-specific priorities and with our federal action agency partners and other departments to identify particular resources' priorities, we didn't try to capture in our draft plan all of the activities that we intend to accomplish over the next five years.

Rather, we focused on identifying operational and programmatic strategies that will help us to address some key challenges so that we can operate smarter and ultimately be more effective over the long term. We kick-started the initiative by identifying five key challenges or focus areas to cover during the five-year planning period.

The first is to meet the increased demand for ESA and EFH consultations. Overall our agency's ESA consultation workload alone has increased over 130 percent over the last few years. This increase has disproportionately impacted our region, which received over half of the consultation requests in Fiscal Year 2014. Combined with reduced funding levels, this has made it really difficult for us to meet the expectations of our federal action agency partners and our constituents and also to participate and support in the national level initiatives that are aimed at further streamlining our federal permitting processes.

We currently have a consultation backlog of about 600 at this time, which is really placing a strain on the region. As we work to address

that consultation backlog, we're also bracing for an influx of large-scale coastal restoration projects to be funded by the Restore Act, the Natural Resource Damage Assessment and Clean Water Act Settlement Agreements related to the Deep Water Horizon Event.
Those projects will provide us a real opportunity to improve the status of our resources in the Gulf, but also require considerable effort on our part to ensure that we're effectively engaging in the permitting process, that the projects are science-based and that we don't become a real bottleneck. With respect to fisheries, we've completed the process of meeting our annual catch-limit mandates under the Magnuson-Stevens Act.

We're seeing some real improvements as fisheries transition from overfished to rebuilt status; but this is understandably creating expectations for increasing fishing and business opportunities, and we're having difficulty meeting those in some fisheries. We're seeing increased scrutiny of the science underlying our management decisions, particularly as we implement the new science-based annual catch limit requirements under the Magnuson-Stevens Act.

Finally, we're also challenged to provide the same or even additional services with less resources, which is requiring us to think hard about how we can accomplish more with less and also to be more strategic in how we allocate the limited resources that we do have. With that in mind, we've identified five strategic goals for the five-year planning period.

The first is to improve our organizational effectiveness; the second, to promote economically vibrant fisheries and communities; the third, to improve the scientific basis for managing our trust resources; the fourth, to leverage resources in support of our organizational priorities; and the fifth, to maximize the benefits of our ESA and EFH consultation resources.

There is no significance to the order of the five goals. Each of them is equally important and each has associated objectives and implementation strategies that would be incorporated into our annual operations' planning. The first goal aims to improve our organizational effectiveness by establishing systematic processes both to identify and communicate our annual priorities and also to better align our resources with those priorities.

This involves collaboratively identifying and prioritizing our resource gaps on an annual basis relative to our core mandates; looking for innovative ways to fill those gaps within our current budget structure; working to generate support for our priorities through higher-level agency planning documents and budget requests; being more strategic in how we plan for employee growth through things like succession planning, recruitment and training strategies and also looking for ways to better utilize our existing information management resources in support of our priorities.

The second goal aims to promote economically vibrant fisheries and communities by better integrating our protected resources, fisheries habitat and aquaculture programs in support of common goals. The first objective here focuses on increasing user benefits in fisheries without compromising our conservation achievements.

We've had some success with this in the South Atlantic in recent years where we've been able to increase annual catch limits for four snapper grouper species following new assessments. We eliminated the five-month recreational seasonal closure restriction on vermilion snapper, affording fishermen the opportunity to target those during the winter months when many of the other species aren't available.

We also eliminated the prohibition that we had on several deep-water snapper grouper species outside of 240 feet after new information indicated that regulation was having greater adverse economic impact than we had estimated and was not achieving the intended conservation effect of minimizing bycatch of Warsaw grouper and speckled hind.

We want to work with the councils to look for more of those types of opportunities in the South Atlantic, Gulf and Caribbean. The second objective here focuses on looking for ways to increase the effectiveness of our habitat conservation efforts by focusing on areas that provide the greatest benefit to our managed fisheries.

The third is to better integrate and inform our fishery consultation processes, for example, through implementation of our new policy directive that is aimed at improving our communication and cooperation with the regional fishery management councils as we prepare Endangered Species Consultations on managed fisheries.

The fourth is to maximize the conservation gains when we develop regulations to reduce bycatch of fish and/or protected resources in fisheries by focusing on those fisheries that have bycatch across a range of species.

The third goal aims to improve the scientific basis for managing our resources. One of the purposes of the agency's broader planning effort is to better synchronize the planning processes of our regional offices and our science centers. The Southeast Fisheries Science Center conducted strategic planning several years ago, and they currently have a plan in place I think through Fiscal Year 2018.

This goal aims to foster that type of cooperation by establishing systematic processes and using existing processes to help us identify joint science priorities, ensure that we will communicate those joint science priorities to our partners and the public along with others that we identify through the SEDAR, regional fishery management councils and other priority-setting documents like our habitat assessment improvement plan.

We will use feedback from that exercise to identify the top science needs for each of our program areas, work with all of our potential science providers to try to meet those needs, and then try to address any remaining gaps in-house to the extent that we can with our available resources.

The fourth goal aims to leverage resources in support of our priorities, both by increasing the use of partnerships and alliances like our regional collaboration teams and Southeast Aquatic Resources Partnership to help us accomplish some of the things that we may no longer be able to do on our own; also by promoting public stewardship of our resources through increased communication, outreach and education.

Finally, the fifth goal aims to maximize the benefits of our ESA and EFH consultation resources by focusing our engagement on those projects that have the greatest potential of conservation impact. The objectives and strategies here mainly focus on streamlining our consultation processes, which will both improve customer service and achieve greater conservation benefits through efficiencies.

We've made quite a bit of progress already on this issue. We're working with our federal action agency partners to identify priority projects. We're reorganized internally our Protected Resources Division; created a new Coral Branch and secured funds for four new positions, each of which will have ESA consultation responsibilities.

We recently back-filled our ESA Section 7 Coordinator position, which was vacated late last year due to retirement. We're completing new programmatic ESA consultations and also general concurrence documents for EFH, which will help us to manage more efficiently some of the more routine items that we consult on.

We've made a lot of progress in this regard but still have a lot of work left to do to effectively address our large consultation backlog and also prepare for the influx of projects and consultation requests that we expect related to the Deepwater Horizon Event. Our success in achieving all of these goals will depend on our partners, including this board and the commission.

We're very interested in hearing your thoughts and feedback both on our strategic goals and the other ideas and concepts for the draft plan. The comment period is open through July 11th and there is the complete draft plan as well as an online comment form available on our website. You can also e-mail comments directly to me at the address listed above. We will definitely take all of your input and ideas into consideration as we work to finalize the draft plan late this summer for implementation next year. Thank you, Mr. Chairman, and I will take any questions.

CHAIRMAN GEER: Thank you very much, Heather. Any questions for Heather? Wilson.

DR. WILSON LANEY: Thank you, Heather, for the presentation. Where in the scheme of goals and objectives does the Oil and Gas Initiative off the South Atlantic fit? I guess I could see several places where it fits, but I would like to hear you respond.

MS. BLOUGH: We would be involved in that in a consultation capacity at the regional office. That is one of the primary focus areas over the next five years to try to manage more efficiently some of these routine informals that we're dealing with on a day-to-day basis, which is creating such a backlog and really distracting from our participation and early engagement in those larger, more important projects. Hopefully, if we implement this effectively, it will free up some time and let us focus on that and other large-scale proposals.

CHAIRMAN GEER: Anybody else have a question for Heather? I see Dr. Daniel.

DR. LOUIS B. DANIEL, III: Can I let Michelle ask a question first?

DR. MICHELLE DUVAL: Thanks for the presentation, Heather. I've read through the plan and I guess one thing that I didn't see mentioned – and I guess I would encourage you to do this; but I think perhaps working more closely with some of your partners in the Greater Atlantic Regional Office with regard to protected species issues where there is a single population that is being managed throughout its range.

I think you know we've certainly experienced some significant differences in applications of the ESA to different fisheries for some of those species; so I would just encourage you to reach out to your partners in the northeast as you develop the strategic plan.

MS. BLOUGH: I appreciate that comment; and so you're talking in the sense of having more consistency in application of the ESA? Yes, okay.

DR. DANIEL: I have two comments. One piggybacks on what Michelle just said. One of the real issues that I think we're seeing right now in North Carolina and issues that I believe some of our sister states will begin to see is implementing incidental take permits through NMFS on some of these protected species that

we're dealing with, specifically for North Carolina sea turtles and Atlantic sturgeon.

Where we're frustrated right now is that we're developing measures to reduce mortalities tremendously; so we've seen a huge reduction in mortality of Atlantic sturgeon and sea turtles in gillnets; upwards of 80 percent reduction in mortality; but the fishery and the state get no credit for that.

It is taking the incentive away where we get just as many dead takes and just as many live takes now as we did before. A single live individual can close a fishery down for months; and there is no credit given for the level of the reduction that we see. Trying to work with us to try to develop some more flexibility on modifying ITPs and trying to provide credit where credit is due and the science center agrees that the credit is appropriate, I think is something that we're desperate for in North Carolina.

The other point that I wanted to make – and this is a big issue in North Carolina as I'm sure it is in other states where the seismic testing is going on. What would be very helpful would be for something to come from NMFS through probably the Center explaining what have you see in the Gulf. I have heard many different stories and the literature seems to be confounded or non-existent on the impacts of seismic testing in the Gulf.

What we're hearing on the east coast is, well, they're not even having to do federal consistencies anymore to go out and do seismic testing, so obviously it has no impact. Is that the case and what do you see in the Gulf that we may be able to piggyback on or learn from on the Atlantic Coast where there really hasn't been much activity? Is that information available and could that be made available to the Atlantic Coast States?

MS. BLOUGH: Thanks for those comments. I'm actually not sure what kind of seismic testing information that we do have available. I think some of those analyses might be done out of our headquarters office. That is totally something that we can look into and get back to you and also something that we can think about how to address more systematically or formally in the plan.

MR. JOE GRIST: During the presentation and I know in the documentation there is mention of Deepwater Horizon and the finalization of that whole issue that has been going on of possibly some monies coming back from that from arbitration. Will those monies be directed just to the Gulf section or is that something that is going to be available for all three sectors to include the Caribbean and the South Atlantic? Since that is specifically mentioned in here, is it isolated to the Gulf only or is what comes out of that going to be spread across the whole area?

MS. BLOUGH: Those funds are going to be limited to the Gulf. They're for restoration efforts and to resolve some of the issues that the spill created in the Gulf. Some of them will be allocated among the five Gulf states; so Florida would definitely get a piece, but I believe activities will be limited to Gulf activities.

CHAIRMAN GEER: Okay, anybody else? The deadline is July 11th.

MS. BLOUGH: July 11th is the end of the comment period on the draft plan.

CHAIRMAN GEER: Heather, thank you very much coming. Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Mr. Chairman, there have been a couple of questions and comments, and I'm not sure if the South Atlantic Board would like to send ASMFC-specific comments in on this plan or if

you would rather comment individually. Heather received some of the comments today, obviously. We don't have to decide right now.

I know we're a bit behind schedule but that something that the South Atlantic states and partners can talk about and see if you guys want to submit something from the commission or do them individually. We can work with Kirby and facilitate that discussion following the meeting, I think. We have about two months to figure it out.

CHAIRMAN GEER: I'm sure we're going to have a lot of the same comments, so we can do that. Kirby and I can work on that together if we need to. Moving on, that's all we had on our agenda really today. Now we have to approve our minutes from our last meeting. I see Robert raising his hand; do I see a second? Everybody is waving a hand. Seeing no objections, I'll consider those approved. We have no public comment. We didn't have anybody sign up for public comment. Is there anything else on the agenda; any new business anybody wants to bring up? Wilson has a question.

DR. LANEY: I had a question for Dr. Daniel relative to is there an update, Louis – I know at our last meeting we discussed southern flounder or maybe it was the meeting before that; and you had indicated some desire to seek collaboration with the other South Atlantic states in the view toward maybe doing an assessment. Is there an update on that or are you making progress on that point?

DR. DANIEL: No; from my understanding I know South Carolina and Georgia have spoken. We are still very interested in that. We're in the throes of developing our FMP right now. It is actually a supplement to the fishery management plan to try to reduce harvest. We're seeing about – I think our average is 73 percent of the fish being harvested in the fishery are juvenile fish.

New information from histological work indicates that I think L-50 is about 16 inches and a hundred percent maturity is not until about 20. We're starting to see where a huge percentage of the harvest is juvenile fish. We don't have an assessment. We're moving forward with that empirical information to provide our commission with options that reduce harvest from 25 to 60 percent.

Just to give an idea; the recreational fishery would have to go to a one-fish bag limit in order to achieve it; so that is going to be real popular with the gig fishery and various other folks. Obviously, North Carolina is very interested. It is just a matter of putting technical people together and put them in contact with one another in the four southern states to get something rolling and find out information we have.

CHAIRMAN GEER: Okay, Louis, I think we already have. We've already talked with Tom and we've been back and forth and he has actually sent us some results already; so he is working on it.

DR. DANIEL: I didn't even know that so that's good news.

CHAIRMAN GEER: And I'm assuming South Carolina probably sent it as well and Florida probably the same thing.

MR. ROBERT H. BOYLES, JR.: Pat, not only that, but we're looking at this great technology, those acoustic receiver arrays. We certainly have reason to believe based on empirical data that a lot of our flounder are compliments of North Carolina, Louis. We're interested in North Carolina escapement. We're looking at that and we'll continue to have that conversation.

DR. DANIEL: Well, it is pretty clear that a lot of those fish are heading south. The big question is the fish that are moving out of, say, Bardens Inlet, which is that Cape Lookout south, where is the repository for the spawning products that are coming out? Are we getting anything from the southern states or are we just supplying adult fish to the southern states?

That's a tough one; because it looks like the big mass of fish that come out of the sounds in the fall that go out of Drum Inlet and Hatteras Inlet and Ocracoke Inlet, they tend to go out and spawn I think in that gyre that tends to bring those fish back into Pamlico Sound. The origin of the larvae that enter inshore from the offshore spawning grounds south of Lookout is kind of an unknown at this point; and so what contribution do we get and give. That will be an interesting question for the technical folks to ponder.

**ADJOURNMENT**

CHAIRMAN GEER: Is there any other new business? Hearing none; the meeting is adjourned.

(Whereupon, the meeting was adjourned at 12:45 o'clock p.m., May 5, 2015.)